

# 2018 PRODUCT LIST

Columns and Accessories



CHIRALPAK® IG-U

Amylose tris  
(3-chloro-5-methylphenylcarbamate)  
Part No. 87U83  
Particle size: 1.6  $\mu\text{m}$   
Internal diameter: 3.0 mm  
Length: 100 mm



## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>IMMOBILIZED POLYSACCHARIDE CSPs AND COLUMNS*</b>					
<b>CHIRALPAK® IA</b>					
80020	CHIRALPAK IA	20	1 kg	—	Bulk CSP
80225	CHIRALPAK IA	20	4.6	250	Method Development
80235	CHIRALPAK IA	20	10	250	Semi-Prep
80242	CHIRALPAK IA	20	20	50	Semi-Prep Guard
80245	CHIRALPAK IA	20	20	250	Semi-Prep
80255	CHIRALPAK IA	20	50	250	Preparative
80256	CHIRALPAK IA	20	50	500	Preparative
80266	CHIRALPAK IA	20	100	500	Preparative
80275	CHIRALPAK IA	20	30	250	Semi-Prep
80935	CHIRALPAK IA/SFC	20	10	250	SFC Semi-Prep
80945	CHIRALPAK IA/SFC	20	20	250	SFC Semi-Prep
80955	CHIRALPAK IA/SFC	20	50	250	SFC Preparative
80975	CHIRALPAK IA/SFC	20	30	250	SFC Semi-Prep
8000E	CHIRALPAK IA-10	10	1 kg	—	Bulk CSP
80G24	CHIRALPAK IA-10/SFC	10	4.6	150	SFC Analytical
80G25	CHIRALPAK IA-10/SFC	10	4.6	250	SFC Analytical
80G94	CHIRALPAK IA-10/SFC	10	2.1	150	SFC Analytical
80G22	CHIRALPAK IA-10/SFC	10	4.6	50	SFC Analytical
80G35	CHIRALPAK IA-10/SFC	10	10	250	SFC Semi-Prep
80G45	CHIRALPAK IA-10/SFC	10	20	250	SFC Semi-Prep
80G55	CHIRALPAK IA-10/SFC	10	50	250	SFC Preparative
80G75	CHIRALPAK IA-10/SFC	10	30	250	SFC Semi-Prep
80311	CHIRALPAK IA	5	4.0	10	Guard Cartridges
80324	CHIRALPAK IA	5	4.6	150	Analytical
80325	CHIRALPAK IA	5	4.6	250	Analytical
80335	CHIRALPAK IA	5	10	250	Semi-Prep
80337	CHIRALPAK IA	5	10	20	Semi-Prep Guard
80345	CHIRALPAK IA	5	20	250	Semi-Prep
80375	CHIRALPAK IA	5	30	250	Semi-Prep
80394	CHIRALPAK IA	5	2.1	150	Analytical
80422	CHIRALPAK IA/SFC	5	4.6	50	SFC Analytical
80423	CHIRALPAK IA/SFC	5	4.6	100	SFC Analytical
80435	CHIRALPAK IA/SFC	5	10	250	SFC Semi-Prep
80445	CHIRALPAK IA/SFC	5	20	250	SFC Semi-Prep
80455	CHIRALPAK IA/SFC	5	50	250	SFC Preparative
80475	CHIRALPAK IA/SFC	5	30	250	SFC Semi-Prep
<b>CHIRALPAK® IA-3</b>					
80511	CHIRALPAK IA-3	3	4.0	10	Guard Cartridges
80522	CHIRALPAK IA-3	3	4.6	50	Analytical
80523	CHIRALPAK IA-3	3	4.6	100	Analytical
80524	CHIRALPAK IA-3	3	4.6	150	Analytical
80525	CHIRALPAK IA-3	3	4.6	250	Analytical
80592	CHIRALPAK IA-3	3	2.1	50	Analytical
80593	CHIRALPAK IA-3	3	2.1	100	Analytical
80594	CHIRALPAK IA-3	3	2.1	150	Analytical
80595	CHIRALPAK IA-3	3	2.1	250	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® IA-U</b>					
80S82	CHIRALPAK IA-3/SFC	3	3.0	50	SFC Analytical
80S83	CHIRALPAK IA-3/SFC	3	3.0	100	SFC Analytical
80S84	CHIRALPAK IA-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® IB</b>					
81311	CHIRALPAK IB	5	4.0	10	Guard Cartridges
81324	CHIRALPAK IB	5	4.6	150	Analytical
81325	CHIRALPAK IB	5	4.6	250	Analytical
81335	CHIRALPAK IB	5	10	250	Semi-Prep
81337	CHIRALPAK IB	5	10	20	Semi-Prep Guard
81345	CHIRALPAK IB	5	20	250	Semi-Prep
81375	CHIRALPAK IB	5	30	250	Semi-Prep
81394	CHIRALPAK IB	5	2.1	150	Analytical
81422	CHIRALPAK IB/SFC	5	4.6	50	SFC Analytical
81423	CHIRALPAK IB/SFC	5	4.6	100	SFC Analytical
81435	CHIRALPAK IB/SFC	5	10	250	SFC Semi-Prep
81445	CHIRALPAK IB/SFC	5	20	250	SFC Semi-Prep
81455	CHIRALPAK IB/SFC	5	50	250	SFC Preparative
81475	CHIRALPAK IB/SFC	5	30	250	SFC Semi-Prep
<b>CHIRALPAK® IB-3</b>					
81511	CHIRALPAK IB-3	3	4.0	10	Guard Cartridges
81522	CHIRALPAK IB-3	3	4.6	50	Analytical
81523	CHIRALPAK IB-3	3	4.6	100	Analytical
81524	CHIRALPAK IB-3	3	4.6	150	Analytical
81525	CHIRALPAK IB-3	3	4.6	250	Analytical
81592	CHIRALPAK IB-3	3	2.1	50	Analytical
81593	CHIRALPAK IB-3	3	2.1	100	Analytical
81594	CHIRALPAK IB-3	3	2.1	150	Analytical
81595	CHIRALPAK IB-3	3	2.1	250	Analytical
81S82	CHIRALPAK IB-3/SFC	3	3.0	50	SFC Analytical
81S83	CHIRALPAK IB-3/SFC	3	3.0	100	SFC Analytical
81S84	CHIRALPAK IB-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® IB-U</b>					
81U82	CHIRALPAK IB-U	1.6	3.0	50	Analytical
81U83	CHIRALPAK IB-U	1.6	3.0	100	Analytical
<b>CHIRALPAK® IB N-20</b>					
88020	CHIRALPAK IB N-20	20	1 kg	-	Bulk CSP
88225	CHIRALPAK IB N-20	20	4.6	250	Method Development
88235	CHIRALPAK IB N-20	20	10	250	Semi-Prep
88242	CHIRALPAK IB N-20	20	20	50	Semi-Prep Guard
88245	CHIRALPAK IB N-20	20	20	250	Semi-Prep
88255	CHIRALPAK IB N-20	20	50	250	Preparative
88256	CHIRALPAK IB N-20	20	50	500	Preparative

\*Immobilized polysaccharide columns are compatible for use in either normal or reverse phase chromatographic conditions.

\*\* All guard cartridges for immobilized polysaccharide columns require a cartridge holder - part number 00011 (page 14)

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
88266	CHIRALPAK IB N-20	20	100	500	Preparative
88275	CHIRALPAK IB N-20	20	30	250	Semi-Prep
88935	CHIRALPAK IB N-20/SFC	20	10	250	SFC Semi-Prep
88945	CHIRALPAK IB N-20/SFC	20	20	250	SFC Semi-Prep
88955	CHIRALPAK IB N-20/SFC	20	50	250	SFC Preparative
88975	CHIRALPAK IB N-20/SFC	20	30	250	SFC Semi-Prep

**CHIRALPAK® IB N-10**

8800E	CHIRALPAK IB N-10	10	1 kg	-	Bulk CSP
88G24	CHIRALPAK IB N-10/SFC	10	4.6	150	SFC Analytical
88G25	CHIRALPAK IB N-10/SFC	10	4.6	250	SFC Analytical
88G94	CHIRALPAK IB N-10/SFC	10	2.1	150	SFC Analytical
88G22	CHIRALPAK IB N-10/SFC	10	4.6	50	SFC Analytical
88G35	CHIRALPAK IB N-10/SFC	10	10	250	SFC Semi-Prep
88G45	CHIRALPAK IB N-10/SFC	10	20	250	SFC Semi-Prep
88G55	CHIRALPAK IB N-10/SFC	10	50	250	SFC Preparative
88G75	CHIRALPAK IB N-10/SFC	10	30	250	SFC Semi-Prep

**CHIRALPAK® IB N-5**

88311	CHIRALPAK IB N-5	5	4.0	10	Guard Cartridges
88324	CHIRALPAK IB N-5	5	4.6	150	Analytical
88325	CHIRALPAK IB N-5	5	4.6	250	Analytical
88335	CHIRALPAK IB N-5	5	10	250	Semi-Prep
88337	CHIRALPAK IB N-5	5	10	20	Semi-Prep Guard
88345	CHIRALPAK IB N-5	5	20	250	Semi-Prep
88375	CHIRALPAK IB N-5	5	30	250	Semi-Prep
88394	CHIRALPAK IB N-5	5	2.1	150	Analytical
88422	CHIRALPAK IB N-5/SFC	5	4.6	50	SFC Analytical
88423	CHIRALPAK IB N-5/SFC	5	4.6	100	SFC Analytical
88435	CHIRALPAK IB N-5/SFC	5	10	250	SFC Semi-Prep
88445	CHIRALPAK IB N-5/SFC	5	20	250	SFC Semi-Prep
88455	CHIRALPAK IB N-5/SFC	5	50	250	SFC Preparative
88475	CHIRALPAK IB N-5/SFC	5	30	250	SFC Semi-Prep

**CHIRALPAK® IB N-3**

88511	CHIRALPAK IB N-3	3	4.0	10	Guard Cartridges
88522	CHIRALPAK IB N-3	3	4.6	50	Analytical
88523	CHIRALPAK IB N-3	3	4.6	100	Analytical
88524	CHIRALPAK IB N-3	3	4.6	150	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
88525	CHIRALPAK IB N-3	3	4.6	250	Analytical
88592	CHIRALPAK IB N-3	3	2.1	50	Analytical
88593	CHIRALPAK IB N-3	3	2.1	100	Analytical
88594	CHIRALPAK IB N-3	3	2.1	150	Analytical
88595	CHIRALPAK IB N-3	3	2.1	250	Analytical
88S82	CHIRALPAK IB N-3/SFC	3	3.0	50	SFC Analytical
88S83	CHIRALPAK IB N-3/SFC	3	3.0	100	SFC Analytical
88S84	CHIRALPAK IB N-3/SFC	3	3.0	150	SFC Analytical

**CHIRALCEL® OD-I**

82020	CHIRALCEL OD-I	20	1 kg	-	Bulk CSP
82225	CHIRALCEL OD-I	20	4.6	250	Method Development
82235	CHIRALCEL OD-I	20	10	250	Semi-Prep
82242	CHIRALCEL OD-I	20	20	50	Semi-Prep Guard
82245	CHIRALCEL OD-I	20	20	250	Semi-Prep
82255	CHIRALCEL OD-I	20	50	250	Preparative
82256	CHIRALCEL OD-I	20	50	500	Preparative
82266	CHIRALCEL OD-I	20	100	500	Preparative
82275	CHIRALCEL OD-I	20	30	250	Semi-Prep
82935	CHIRALCEL OD-I/SFC	20	10	250	SFC Semi-Prep
82945	CHIRALCEL OD-I/SFC	20	20	250	SFC Semi-Prep
82955	CHIRALCEL OD-I/SFC	20	50	250	SFC Preparative
82975	CHIRALCEL OD-I/SFC	20	30	250	SFC Semi-Prep

**CHIRALPAK® IC**

83020	CHIRALPAK IC	20	1 kg	-	Bulk CSP
83225	CHIRALPAK IC	20	4.6	250	Method Development
83235	CHIRALPAK IC	20	10	250	Semi-Prep
83242	CHIRALPAK IC	20	20	50	Semi-Prep Guard
83245	CHIRALPAK IC	20	20	250	Semi-Prep
83255	CHIRALPAK IC	20	50	250	Preparative
83256	CHIRALPAK IC	20	50	500	Preparative
83266	CHIRALPAK IC	20	100	500	Preparative
83275	CHIRALPAK IC	20	30	250	Semi-Prep
83935	CHIRALPAK IC/SFC	20	10	250	SFC Semi-Prep
83945	CHIRALPAK IC/SFC	20	20	250	SFC Semi-Prep
83955	CHIRALPAK IC/SFC	20	50	250	SFC Preparative
83975	CHIRALPAK IC/SFC	20	30	250	SFC Semi-Prep
8300E	CHIRALPAK IC-10	10	1 kg	-	Bulk CSP
83G24	CHIRALPAK IC-10/SFC	10	4.6	150	SFC Analytical
83G25	CHIRALPAK IC-10/SFC	10	4.6	250	SFC Analytical
83G94	CHIRALPAK IC-10/SFC	10	2.1	150	SFC Analytical
83G22	CHIRALPAK IC-10/SFC	10	4.6	50	SFC Analytical
83G35	CHIRALPAK IC-10/SFC	10	10	250	SFC Semi-Prep
83G45	CHIRALPAK IC-10/SFC	10	20	250	SFC Semi-Prep
83G55	CHIRALPAK IC-10/SFC	10	50	250	SFC Preparative
83G75	CHIRALPAK IC-10/SFC	10	30	250	SFC Semi-Prep
83311	CHIRALPAK IC	5	4.0	10	Guard Cartridges

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
83324	CHIRALPAK IC	5	4.6	150	Analytical
83325	CHIRALPAK IC	5	4.6	250	Analytical
83335	CHIRALPAK IC	5	10	250	Semi-Prep
83337	CHIRALPAK IC	5	10	20	Semi-Prep Guard
83345	CHIRALPAK IC	5	20	250	Semi-Prep
83375	CHIRALPAK IC	5	30	250	Semi-Prep
83394	CHIRALPAK IC	5	2.1	150	Analytical
83422	CHIRALPAK IC/SFC	5	4.6	50	SFC Analytical
83423	CHIRALPAK IC/SFC	5	4.6	100	SFC Analytical
83435	CHIRALPAK IC/SFC	5	10	250	SFC Semi-Prep
83445	CHIRALPAK IC/SFC	5	20	250	SFC Semi-Prep
83455	CHIRALPAK IC/SFC	5	50	250	SFC Preparative
83475	CHIRALPAK IC/SFC	5	30	250	SFC Semi-Prep
<b>CHIRALPAK® IC-3</b>					
83511	CHIRALPAK IC-3	3	4.0	10	Guard Cartridges
83522	CHIRALPAK IC-3	3	4.6	50	Analytical
83523	CHIRALPAK IC-3	3	4.6	100	Analytical
83524	CHIRALPAK IC-3	3	4.6	150	Analytical
83525	CHIRALPAK IC-3	3	4.6	250	Analytical
83592	CHIRALPAK IC-3	3	2.1	50	Analytical
83593	CHIRALPAK IC-3	3	2.1	100	Analytical
83594	CHIRALPAK IC-3	3	2.1	150	Analytical
83595	CHIRALPAK IC-3	3	2.1	250	Analytical
83S82	CHIRALPAK IC-3/SFC	3	3.0	50	SFC Analytical
83S83	CHIRALPAK IC-3/SFC	3	3.0	100	SFC Analytical
83S84	CHIRALPAK IC-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® IC-U</b>					
83U82	CHIRALPAK IC-U	1.6	3.0	50	Analytical
83U83	CHIRALPAK IC-U	1.6	3.0	100	Analytical
<b>CHIRALPAK® ID</b>					
84020	CHIRALPAK ID	20	1 kg	–	Bulk CSP
84225	CHIRALPAK ID	20	4.6	250	Method Development
84235	CHIRALPAK ID	20	10	250	Semi-Prep
84242	CHIRALPAK ID	20	20	50	Semi-Prep Guard
84245	CHIRALPAK ID	20	20	250	Semi-Prep
84255	CHIRALPAK ID	20	50	250	Preparative
84256	CHIRALPAK ID	20	50	500	Preparative
84266	CHIRALPAK ID	20	100	500	Preparative
84275	CHIRALPAK ID	20	30	250	Semi-Prep
84935	CHIRALPAK ID/SFC	20	10	250	SFC Semi-Prep
84945	CHIRALPAK ID/SFC	20	20	250	SFC Semi-Prep
84955	CHIRALPAK ID/SFC	20	50	250	SFC Preparative
84975	CHIRALPAK ID/SFC	20	30	250	SFC Semi-Prep
8400E	CHIRALPAK ID-10	10	1 kg	–	Bulk CSP
84G24	CHIRALPAK ID-10/SFC	10	4.6	150	SFC Analytical
84G25	CHIRALPAK ID-10/SFC	10	4.6	250	SFC Analytical
84G94	CHIRALPAK ID-10/SFC	10	2.1	150	SFC Analytical
84G22	CHIRALPAK ID-10/SFC	10	4.6	50	SFC Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
84G35	CHIRALPAK ID-10/SFC	10	10	250	SFC Semi-Prep
84G45	CHIRALPAK ID-10/SFC	10	20	250	SFC Semi-Prep
84G55	CHIRALPAK ID-10/SFC	10	50	250	SFC Preparative
84G75	CHIRALPAK ID-10/SFC	10	30	250	SFC Semi-Prep
84311	CHIRALPAK ID	5	4.0	10	Guard Cartridges
84324	CHIRALPAK ID	5	4.6	150	Analytical
84325	CHIRALPAK ID	5	4.6	250	Analytical
84335	CHIRALPAK ID	5	10	250	Semi-Prep
84337	CHIRALPAK ID	5	10	20	Semi-Prep Guard
84345	CHIRALPAK ID	5	20	250	Semi-Prep
84375	CHIRALPAK ID	5	30	250	Semi-Prep
84394	CHIRALPAK ID	5	2.1	150	Analytical
84422	CHIRALPAK ID/SFC	5	4.6	50	SFC Analytical
84423	CHIRALPAK ID/SFC	5	4.6	100	SFC Analytical
84435	CHIRALPAK ID/SFC	5	10	250	SFC Semi-Prep
84445	CHIRALPAK ID/SFC	5	20	250	SFC Semi-Prep
84455	CHIRALPAK ID/SFC	5	50	250	SFC Preparative
84475	CHIRALPAK ID/SFC	5	30	250	SFC Semi-Prep
<b>CHIRALPAK® ID-3</b>					
84511	CHIRALPAK ID-3	3	4.0	10	Guard Cartridges
84522	CHIRALPAK ID-3	3	4.6	50	Analytical
84523	CHIRALPAK ID-3	3	4.6	100	Analytical
84524	CHIRALPAK ID-3	3	4.6	150	Analytical
84525	CHIRALPAK ID-3	3	4.6	250	Analytical
84592	CHIRALPAK ID-3	3	2.1	50	Analytical
84593	CHIRALPAK ID-3	3	2.1	100	Analytical
84594	CHIRALPAK ID-3	3	2.1	150	Analytical
84595	CHIRALPAK ID-3	3	2.1	250	Analytical
84S82	CHIRALPAK ID-3/SFC	3	3.0	50	SFC Analytical
84S83	CHIRALPAK ID-3/SFC	3	3.0	100	SFC Analytical
84S84	CHIRALPAK ID-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® IE</b>					
85020	CHIRALPAK IE	20	1 kg	–	Bulk CSP
85225	CHIRALPAK IE	20	4.6	250	Method Development
85235	CHIRALPAK IE	20	10	250	Semi-Prep
85242	CHIRALPAK IE	20	20	50	Semi-Prep Guard
85245	CHIRALPAK IE	20	20	250	Semi-Prep
85255	CHIRALPAK IE	20	50	250	Preparative
85256	CHIRALPAK IE	20	50	500	Preparative
85266	CHIRALPAK IE	20	100	500	Preparative
85275	CHIRALPAK IE	20	30	250	Semi-Prep
85935	CHIRALPAK IE/SFC	20	10	250	SFC Semi-Prep
85945	CHIRALPAK IE/SFC	20	20	250	SFC Semi-Prep
85955	CHIRALPAK IE/SFC	20	50	250	SFC Preparative
85975	CHIRALPAK IE/SFC	20	30	250	SFC Semi-Prep
8500E	CHIRALPAK IE-10	10	1 kg	–	Bulk CSP
85G24	CHIRALPAK IE-10/SFC	10	4.6	150	SFC Analytical
85G25	CHIRALPAK IE-10/SFC	10	4.6	250	SFC Analytical
85G94	CHIRALPAK IE-10/SFC	10	2.1	150	SFC Analytical
85G22	CHIRALPAK IE-10/SFC	10	4.6	50	SFC Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE	PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® IE-3</b>											
85511	CHIRALPAK IE-3	3	4.0	10	Guard Cartridges	86511	CHIRALPAK IF-3	3	4.0	10	Guard Cartridges
85522	CHIRALPAK IE-3	3	4.6	50	Analytical	86522	CHIRALPAK IF-3	3	4.6	50	Analytical
85523	CHIRALPAK IE-3	3	4.6	100	Analytical	86523	CHIRALPAK IF-3	3	4.6	100	Analytical
85524	CHIRALPAK IE-3	3	4.6	150	Analytical	86524	CHIRALPAK IF-3	3	4.6	150	Analytical
85525	CHIRALPAK IE-3	3	4.6	250	Analytical	86525	CHIRALPAK IF-3	3	4.6	250	Analytical
85592	CHIRALPAK IE-3	3	2.1	50	Analytical	86592	CHIRALPAK IF-3	3	2.1	50	Analytical
85593	CHIRALPAK IE-3	3	2.1	100	Analytical	86593	CHIRALPAK IF-3	3	2.1	100	Analytical
85594	CHIRALPAK IE-3	3	2.1	150	Analytical	86594	CHIRALPAK IF-3	3	2.1	150	Analytical
85595	CHIRALPAK IE-3	3	2.1	250	Analytical	86595	CHIRALPAK IF-3	3	2.1	250	Analytical
85S82	CHIRALPAK IE-3/SFC	3	3.0	50	SFC Analytical	86S82	CHIRALPAK IF-3/SFC	3	3.0	50	SFC Analytical
85S83	CHIRALPAK IE-3/SFC	3	3.0	100	SFC Analytical	86S83	CHIRALPAK IF-3/SFC	3	3.0	100	SFC Analytical
85S84	CHIRALPAK IE-3/SFC	3	3.0	150	SFC Analytical	86S84	CHIRALPAK IF-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® IF</b>											
86020	CHIRALPAK IF	20	1 kg	—	Bulk CSP	87020	CHIRALPAK IG	20	1 kg	—	Bulk CSP
86225	CHIRALPAK IF	20	4.6	250	Method Development	87225	CHIRALPAK IG	20	4.6	250	Method Development
86235	CHIRALPAK IF	20	10	250	Semi-Prep	87235	CHIRALPAK IG	20	10	250	Semi-Prep
86242	CHIRALPAK IF	20	20	50	Semi-Prep Guard	87242	CHIRALPAK IG	20	20	50	Semi-Prep Guard
86245	CHIRALPAK IF	20	20	250	Semi-Prep	87245	CHIRALPAK IG	20	20	250	Semi-Prep
86255	CHIRALPAK IF	20	50	250	Preparative	87255	CHIRALPAK IG	20	50	250	Preparative
86256	CHIRALPAK IF	20	50	500	Preparative	87256	CHIRALPAK IG	20	50	500	Preparative
86266	CHIRALPAK IF	20	100	500	Preparative	87266	CHIRALPAK IG	20	100	500	Preparative
86275	CHIRALPAK IF	20	30	250	Semi-Prep	87275	CHIRALPAK IG	20	30	250	Semi-Prep
86935	CHIRALPAK IF/SFC	20	10	250	SFC Semi-Prep	87935	CHIRALPAK IG/SFC	20	10	250	SFC Semi-Prep
86945	CHIRALPAK IF/SFC	20	20	250	SFC Semi-Prep	87945	CHIRALPAK IG/SFC	20	20	250	SFC Semi-Prep
86955	CHIRALPAK IF/SFC	20	50	250	SFC Preparative						
86975	CHIRALPAK IF/SFC	20	30	250	SFC Semi-Prep						
8600E	CHIRALPAK IF-10	10	1 kg	—	Bulk CSP						
86G24	CHIRALPAK IF-10/SFC	10	4.6	150	SFC Analytical						
86G25	CHIRALPAK IF-10/SFC	10	4.6	250	SFC Analytical						

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
87955	CHIRALPAK IG/SFC	20	50	250	SFC Preparative
87975	CHIRALPAK IG/SFC	20	30	250	SFC Semi-Prep
8700E	CHIRALPAK IG-10	10	1 kg	—	Bulk CSP
87G24	CHIRALPAK IG-10/SFC	10	4.6	150	SFC Analytical
87G25	CHIRALPAK IG-10/SFC	10	4.6	250	SFC Analytical
87G94	CHIRALPAK IG-10/SFC	10	2.1	150	SFC Analytical
87G22	CHIRALPAK IG-10/SFC	10	4.6	50	SFC Analytical
87G35	CHIRALPAK IG-10/SFC	10	10	250	SFC Semi-Prep
87G45	CHIRALPAK IG-10/SFC	10	20	250	SFC Semi-Prep
87G55	CHIRALPAK IG-10/SFC	10	50	250	SFC Preparative
87G75	CHIRALPAK IG-10/SFC	10	30	250	SFC Semi-Prep
87311	CHIRALPAK IG	5	4.0	10	Guard Cartridges
87324	CHIRALPAK IG	5	4.6	150	Analytical
87325	CHIRALPAK IG	5	4.6	250	Analytical
87335	CHIRALPAK IG	5	10	250	Semi-Prep
87337	CHIRALPAK IG	5	10	20	Semi-Prep Guard
87345	CHIRALPAK IG	5	20	250	Semi-Prep
87375	CHIRALPAK IG	5	30	250	Semi-Prep
87394	CHIRALPAK IG	5	2.1	150	Analytical
87422	CHIRALPAK IG/SFC	5	4.6	50	SFC Analytical
87423	CHIRALPAK IG/SFC	5	4.6	100	SFC Analytical
87435	CHIRALPAK IG/SFC	5	10	250	SFC Semi-Prep
87445	CHIRALPAK IG/SFC	5	20	250	SFC Semi-Prep
87455	CHIRALPAK IG/SFC	5	50	250	SFC Preparative
87475	CHIRALPAK IG/SFC	5	30	250	SFC Semi-Prep

### CHIRALPAK® IG-3

87511	CHIRALPAK IG-3	3	4.0	10	Guard Cartridges
87522	CHIRALPAK IG-3	3	4.6	50	Analytical
87523	CHIRALPAK IG-3	3	4.6	100	Analytical
87524	CHIRALPAK IG-3	3	4.6	150	Analytical
87525	CHIRALPAK IG-3	3	4.6	250	Analytical
87592	CHIRALPAK IG-3	3	2.1	50	Analytical
87593	CHIRALPAK IG-3	3	2.1	100	Analytical
87594	CHIRALPAK IG-3	3	2.1	150	Analytical
87595	CHIRALPAK IG-3	3	2.1	250	Analytical
87S82	CHIRALPAK IG-3/SFC	3	3.0	50	SFC Analytical
87S83	CHIRALPAK IG-3/SFC	3	3.0	100	SFC Analytical
87S84	CHIRALPAK IG-3/SFC	3	3.0	150	SFC Analytical

### CHIRALPAK® IG-U

87U82	CHIRALPAK IG-U	1.6	3.0	50	Analytical
87U83	CHIRALPAK IG-U	1.6	3.0	100	Analytical

### CHIRALPAK® IH

89311	CHIRALPAK IH	5	4.0	10	Guard Cartridges
89324	CHIRALPAK IH	5	4.6	150	Analytical
89325	CHIRALPAK IH	5	4.6	250	Analytical
89335	CHIRALPAK IH	5	10	250	Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
89337	CHIRALPAK IH	5	10	20	Semi-Prep Guard
89345	CHIRALPAK IH	5	20	250	Semi-Prep
89375	CHIRALPAK IH	5	30	250	Semi-Prep
89394	CHIRALPAK IH	5	2.1	150	Analytical
89422	CHIRALPAK IH/SFC	5	4.6	50	SFC Analytical
89423	CHIRALPAK IH/SFC	5	4.6	100	SFC Analytical
89435	CHIRALPAK IH/SFC	5	10	250	SFC Semi-Prep
89445	CHIRALPAK IH/SFC	5	20	250	SFC Semi-Prep
89455	CHIRALPAK IH/SFC	5	50	250	SFC Preparative
89475	CHIRALPAK IH/SFC	5	30	250	SFC Semi-Prep

### CHIRALPAK® IH-3

89511	CHIRALPAK IH-3	3	4.0	10	Guard Cartridges
89522	CHIRALPAK IH-3	3	4.6	50	Analytical
89523	CHIRALPAK IH-3	3	4.6	100	Analytical
89524	CHIRALPAK IH-3	3	4.6	150	Analytical
89525	CHIRALPAK IH-3	3	4.6	250	Analytical
89592	CHIRALPAK IH-3	3	2.1	50	Analytical
89593	CHIRALPAK IH-3	3	2.1	100	Analytical
89594	CHIRALPAK IH-3	3	2.1	150	Analytical
89595	CHIRALPAK IH-3	3	2.1	250	Analytical
89S82	CHIRALPAK IH-3/SFC	3	3.0	50	SFC Analytical
89S83	CHIRALPAK IH-3/SFC	3	3.0	100	SFC Analytical
89S84	CHIRALPAK IH-3/SFC	3	3.0	150	SFC Analytical

### CHIRALPAK® IH-U

89U82	CHIRALPAK IH-U	1.6	3.0	50	Analytical
89U83	CHIRALPAK IH-U	1.6	3.0	100	Analytical

### IMMOBILIZED COLUMNS FOR MPLC – METHOD DEVELOPMENT

80223	CHIRALPAK IA	20	4.6	100	Method Development
83223	CHIRALPAK IC	20	4.6	100	Method Development
84223	CHIRALPAK ID	20	4.6	100	Method Development
85223	CHIRALPAK IE	20	4.6	100	Method Development
86223	CHIRALPAK IF	20	4.6	100	Method Development
87223	CHIRALPAK IG	20	4.6	100	Method Development

### IMMOBILIZED COLUMNS FOR MPLC

80M73	CHIRALFLASH IA	20	30	100	Semi-Prep
83M73	CHIRALFLASH IC	20	30	100	Semi-Prep
84M73	CHIRALFLASH ID	20	30	100	Semi-Prep
85M73	CHIRALFLASH IE	20	30	100	Semi-Prep
86M73	CHIRALFLASH IF	20	30	100	Semi-Prep
87M73	CHIRALFLASH IG	20	30	100	Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE	PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE						
<b>IMMOBILIZED CHIRAL TLC PLATES</b>																	
<b>2L-CHIRAL TLC</b>																	
5ST5A	2L-ChiralTLC 5 (5-pkg/1 each)	20	200	100	Method Development	34711	CHIRALPAK HSA (2-pkg)	5	4.0	10	Guard Cartridges						
80T2A	2L-ChiralTLC IA (2-pkg)	20	200	100	Method Development	34712	CHIRALPAK HSA	5	4.0	50	Analytical						
83T2A	2L-ChiralTLC IC (2-pkg)	20	200	100	Method Development	34713	CHIRALPAK HSA	5	4.0	100	Analytical						
84T2A	2L-ChiralTLC ID (2-pkg)	20	200	100	Method Development	34714	CHIRALPAK HSA	5	4.0	150	Analytical						
85T2A	2L-ChiralTLC IE (2-pkg)	20	200	100	Method Development	34733	CHIRALPAK HSA	5	10	100	Semi-Prep						
86T2A	2L-ChiralTLC IF (2-pkg)	20	200	100	Method Development	34734	CHIRALPAK HSA	5	10	150	Semi-Prep						
<b>IMMOBILIZED PROTEIN-BASED COLUMNS*</b>																	
<b>CHIRALPAK® AGP</b>																	
30711	CHIRALPAK AGP (2-pkg)	5	4.0	10	Guard Cartridges	34781	CHIRALPAK HSA (2-pkg)	5	3.0	10	Guard Cartridges						
30712	CHIRALPAK AGP	5	4.0	50	Analytical	34782	CHIRALPAK HSA	5	3.0	50	Analytical						
30713	CHIRALPAK AGP	5	4.0	100	Analytical	34783	CHIRALPAK HSA	5	3.0	100	Analytical						
30714	CHIRALPAK AGP	5	4.0	150	Analytical	34784	CHIRALPAK HSA	5	3.0	150	Analytical						
30733	CHIRALPAK AGP	5	10	100	Semi-Prep	34791	CHIRALPAK HSA (2-pkg)	5	2.0	10	Guard Cartridges						
30734	CHIRALPAK AGP	5	10	150	Semi-Prep	34792	CHIRALPAK HSA	5	2.0	50	Analytical						
30781	CHIRALPAK AGP (2-pkg)	5	3.0	10	Guard Cartridges	34793	CHIRALPAK HSA	5	2.0	100	Analytical						
30782	CHIRALPAK AGP	5	3.0	50	Analytical	34794	CHIRALPAK HSA	5	2.0	150	Analytical						
30783	CHIRALPAK AGP	5	3.0	100	Analytical												
30784	CHIRALPAK AGP	5	3.0	150	Analytical												
30791	CHIRALPAK AGP (2-pkg)	5	2.0	10	Guard Cartridges												
30792	CHIRALPAK AGP	5	2.0	50	Analytical												
30793	CHIRALPAK AGP	5	2.0	100	Analytical												
30794	CHIRALPAK AGP	5	2.0	150	Analytical												
<b>CHIRALPAK® CBH</b>																	
33711	CHIRALPAK CBH (2-pkg)	5	4.0	10	Guard Cartridges												
33712	CHIRALPAK CBH	5	4.0	50	Analytical												
33713	CHIRALPAK CBH	5	4.0	100	Analytical												
33714	CHIRALPAK CBH	5	4.0	150	Analytical												
33733	CHIRALPAK CBH	5	10	100	Semi-Prep												
33734	CHIRALPAK CBH	5	10	150	Semi-Prep												
33781	CHIRALPAK CBH (2-pkg)	5	3.0	10	Guard Cartridges												
33782	CHIRALPAK CBH	5	3.0	50	Analytical												
33783	CHIRALPAK CBH	5	3.0	100	Analytical												
33784	CHIRALPAK CBH	5	3.0	150	Analytical												
33791	CHIRALPAK CBH (2-pkg)	5	2.0	10	Guard Cartridges												
33792	CHIRALPAK CBH	5	2.0	50	Analytical												
33793	CHIRALPAK CBH	5	2.0	100	Analytical												
33794	CHIRALPAK CBH	5	2.0	150	Analytical												
<b>CHIRALPAK® BSA</b>																	
35711	CHIRALPAK BSA (2-pkg)	5	4.0	10	Guard Cartridges												
35712	CHIRALPAK BSA	5	4.0	50	Analytical												
35714	CHIRALPAK BSA	5	4.0	150	Analytical												
35781	CHIRALPAK BSA (2-pkg)	5	3.0	10	Guard Cartridges												
35782	CHIRALPAK BSA	5	3.0	50	Analytical												
35791	CHIRALPAK BSA (2-pkg)	5	2.0	10	Guard Cartridges												
35792	CHIRALPAK BSA	5	2.0	50	Analytical												
<b>CHIRALPAK® DSA</b>																	
36711	CHIRALPAK DSA (2-pkg)	5	4.0	10	Guard Cartridges												
36712	CHIRALPAK DSA	5	4.0	50	Analytical												
36714	CHIRALPAK DSA	5	4.0	150	Analytical												
36781	CHIRALPAK DSA (2-pkg)	5	3.0	10	Guard Cartridges												
36782	CHIRALPAK DSA	5	3.0	50	Analytical												
36791	CHIRALPAK DSA (2-pkg)	5	2.0	10	Guard Cartridges												
36792	CHIRALPAK DSA	5	2.0	50	Analytical												
<b>CHIRALPAK® MSA</b>																	
37712	CHIRALPAK MSA	5	4.0	50	Analytical												
37782	CHIRALPAK MSA	5	3.0	50	Analytical												
<b>CHIRALPAK® RSA</b>																	
38711	CHIRALPAK RSA (2-pkg)	5	4.0	10	Guard Cartridges												
38712	CHIRALPAK RSA	5	4.0	50	Analytical												
38714	CHIRALPAK RSA	5	4.0	150	Analytical												
38781	CHIRALPAK RSA (2-pkg)	5	3.0	10	Guard Cartridges												
38782	CHIRALPAK RSA	5	3.0	50	Analytical												

\* All guard cartridges for immobilized protein-based columns require a cartridge holder - part number 00081 (page 8)

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
38791	CHIRALPAK RSA (2-pkg)	5	2.0	10	Guard Cartridges
38792	CHIRALPAK RSA	5	2.0	50	Analytical

### PROTEIN-BASED COLUMN ACCESSORIES

00081	Guard Cartridge Holder	Holder
000D1	Guard Column Coupler	Coupler
000D2	Micro Guard Column Coupler	Coupler

### COATED POLYSACCHARIDE CSPs AND COLUMNS\*

CHIRALCEL® OB					
12022	CHIRALCEL OB	10	4.6	50	Guard Column
12025	CHIRALCEL OB	10	4.6	250	HPLC Analytical
CHIRALCEL® OB-H					
12311	CHIRALCEL OB-H	5	4.0	10	Guard Cartridges
12324	CHIRALCEL OB-H	5	4.6	150	Analytical
12325	CHIRALCEL OB-H	5	4.6	250	Analytical

CHIRALCEL® OC					
13022	CHIRALCEL OC	10	4.6	50	Guard Column
13025	CHIRALCEL OC	10	4.6	250	HPLC Analytical

CHIRALCEL® OC-H					
13311	CHIRALCEL OC-H	5	4.0	10	Guard Cartridges
13325	CHIRALCEL OC-H	5	4.6	250	Analytical

CHIRALCEL® OD					
14020	CHIRALCEL OD	20	1 kg	-	Bulk CSP
14225	CHIRALCEL OD	20	4.6	250	Method Development
14235	CHIRALCEL OD	20	10	250	Semi-Prep
14242	CHIRALCEL OD	20	20	50	Semi-Prep Guard
14245	CHIRALCEL OD	20	20	250	Semi-Prep
14255	CHIRALCEL OD	20	50	250	Preparative
14256	CHIRALCEL OD	20	50	500	Preparative
14266	CHIRALCEL OD	20	100	500	Preparative
14275	CHIRALCEL OD	20	30	250	Semi-Prep
14935	CHIRALCEL OD/SFC	20	10	250	SFC Semi-Prep
14945	CHIRALCEL OD/SFC	20	20	250	SFC Semi-Prep
14955	CHIRALCEL OD/SFC	20	50	250	SFC Preparative
14975	CHIRALCEL OD/SFC	20	30	250	SFC Semi-Prep
1400E	CHIRALCEL OD-10	10	1kg		Bulk CSP
14G24	CHIRALCEL OD-10/SFC	10	4.6	150	SFC Analytical
14G25	CHIRALCEL OD-10/SFC	10	4.6	250	SFC Analytical
14G94	CHIRALCEL OD-10/SFC	10	2.1	150	SFC Analytical
14G22	CHIRALCEL OD-10/SFC	10	4.6	50	SFC Analytical
14G35	CHIRALCEL OD-10/SFC	10	10	250	SFC Semi-Prep
14G45	CHIRALCEL OD-10/SFC	10	20	250	SFC Semi-Prep
14G55	CHIRALCEL OD-10/SFC	10	50	250	SFC Preparative
14G75	CHIRALCEL OD-10/SFC	10	30	250	SFC Semi-Prep
14022	CHIRALCEL OD	10	4.6	50	Guard Column

\* All guard cartridges for coated polysaccharide columns require a cartridge holder - part number 00011 (page 14)

Note: guard columns are stand alone columns and do not require a holder

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
14025	CHIRALCEL OD	10	4.6	250	HPLC Analytical
14035	CHIRALCEL OD	10	10	250	Semi-Prep
14045	CHIRALCEL OD	10	20	250	Semi-Prep

### CHIRALCEL® OD-H

14311	CHIRALCEL OD-H	5	4.0	10	Guard Cartridges
14324	CHIRALCEL OD-H	5	4.6	150	Analytical
14325	CHIRALCEL OD-H	5	4.6	250	Analytical
14335	CHIRALCEL OD-H	5	10	250	Semi-Prep
14345	CHIRALCEL OD-H	5	20	250	Semi-Prep
14375	CHIRALCEL OD-H	5	30	250	Semi-Prep
14394	CHIRALCEL OD-H	5	2.1	150	Analytical
14422	CHIRALCEL OD-H/SFC	5	4.6	50	SFC Analytical
14423	CHIRALCEL OD-H/SFC	5	4.6	100	SFC Analytical
14435	CHIRALCEL OD-H/SFC	5	10	250	SFC Semi-Prep
14445	CHIRALCEL OD-H/SFC	5	20	250	SFC Semi-Prep
14455	CHIRALCEL OD-H/SFC	5	50	250	SFC Preparative
14475	CHIRALCEL OD-H/SFC	5	30	250	SFC Semi-Prep

### CHIRALCEL® OD-3

14511	CHIRALCEL OD-3	3	4.0	10	Guard Cartridges
14522	CHIRALCEL OD-3	3	4.6	50	Analytical
14523	CHIRALCEL OD-3	3	4.6	100	Analytical
14524	CHIRALCEL OD-3	3	4.6	150	Analytical
14525	CHIRALCEL OD-3	3	4.6	250	Analytical
14592	CHIRALCEL OD-3	3	2.1	50	Analytical
14593	CHIRALCEL OD-3	3	2.1	100	Analytical
14594	CHIRALCEL OD-3	3	2.1	150	Analytical
14595	CHIRALCEL OD-3	3	2.1	250	Analytical
14S82	CHIRALCEL OD-3/SFC	3	3.0	50	SFC Analytical
14S83	CHIRALCEL OD-3/SFC	3	3.0	100	SFC Analytical
14S84	CHIRALCEL OD-3/SFC	3	3.0	150	SFC Analytical

### CHIRALCEL® OD-R

14625	CHIRALCEL OD-R	10	4.6	250	HPLC Analytical
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### CHIRALCEL® OD-RH

14711	CHIRALCEL OD-RH	5	4.0	10	Guard Cartridges
14724	CHIRALCEL OD-RH	5	4.6	150	Analytical
14745	CHIRALCEL OD-RH	5	20	250	Semi-Prep Rev Ph
14794	CHIRALCEL OD-RH	5	2.1	150	Analytical

### CHIRALCEL® OD-3R

14811	CHIRALCEL OD-3R	3	4.0	10	Guard Cartridges
14822	CHIRALCEL OD-3R	3	4.6	50	Analytical
14823	CHIRALCEL OD-3R	3	4.6	100	Analytical
14824	CHIRALCEL OD-3R	3	4.6	150	Analytical
14892	CHIRALCEL OD-3R	3	2.1	50	Analytical
14893	CHIRALCEL OD-3R	3	2.1	100	Analytical
14894	CHIRALCEL OD-3R	3	2.1	150	Analytical
14895	CHIRALCEL OD-3R	3	2.1	250	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALCEL® OF</b>					
15022	CHIRALCEL OF	10	4.6	50	Guard Column
15025	CHIRALCEL OF	10	4.6	250	HPLC Analytical
<b>CHIRALCEL® OG</b>					
16022	CHIRALCEL OG	10	4.6	50	Guard Column
16025	CHIRALCEL OG	10	4.6	250	HPLC Analytical
<b>CHIRALCEL® OJ</b>					
17020	CHIRALCEL OJ	20	1 kg	–	Bulk CSP
17225	CHIRALCEL OJ	20	4.6	250	Method Development
17235	CHIRALCEL OJ	20	10	250	Semi-Prep
17242	CHIRALCEL OJ	20	20	50	Semi-Prep Guard
17245	CHIRALCEL OJ	20	20	250	Semi-Prep
17255	CHIRALCEL OJ	20	50	250	Preparative
17256	CHIRALCEL OJ	20	50	500	Preparative
17266	CHIRALCEL OJ	20	100	500	Preparative
17275	CHIRALCEL OJ	20	30	250	Semi-Prep
17935	CHIRALCEL OJ/SFC	20	10	250	SFC Semi-Prep
17945	CHIRALCEL OJ/SFC	20	20	250	SFC Semi-Prep
17955	CHIRALCEL OJ/SFC	20	50	250	SFC Preparative
17975	CHIRALCEL OJ/SFC	20	30	250	SFC Semi-Prep
1700E	CHIRALCEL OJ-10	10	1 kg	–	Bulk CSP
17G24	CHIRALCEL OJ-10/SFC	10	4.6	150	SFC Analytical
17G25	CHIRALCEL OJ-10/SFC	10	4.6	250	SFC Analytical
17G94	CHIRALCEL OJ-10/SFC	10	2.1	150	SFC Analytical
17G22	CHIRALCEL OJ-10/SFC	10	4.6	50	SFC Analytical
17G35	CHIRALCEL OJ-10/SFC	10	10	250	SFC Semi-Prep
17G45	CHIRALCEL OJ-10/SFC	10	20	250	SFC Semi-Prep
17G55	CHIRALCEL OJ-10/SFC	10	50	250	SFC Preparative
17G75	CHIRALCEL OJ-10/SFC	10	30	250	SFC Semi-Prep
17022	CHIRALCEL OJ	10	4.6	50	Guard Column
17025	CHIRALCEL OJ	10	4.6	250	HPLC Analytical
17035	CHIRALCEL OJ	10	10	250	Semi-Prep
17045	CHIRALCEL OJ	10	20	250	Semi-Prep
<b>CHIRALCEL® OJ-H</b>					
17311	CHIRALCEL OJ-H	5	4.0	10	Guard Cartridges
17324	CHIRALCEL OJ-H	5	4.6	150	Analytical
17325	CHIRALCEL OJ-H	5	4.6	250	Analytical
17335	CHIRALCEL OJ-H	5	10	250	Semi-Prep
17345	CHIRALCEL OJ-H	5	20	250	Semi-Prep
17375	CHIRALCEL OJ-H	5	30	250	Semi-Prep
17394	CHIRALCEL OJ-H	5	2.1	150	Analytical
17422	CHIRALCEL OJ-H/SFC	5	4.6	50	SFC Analytical
17423	CHIRALCEL OJ-H/SFC	5	4.6	100	SFC Analytical
17435	CHIRALCEL OJ-H/SFC	5	10	250	SFC Semi-Prep
17445	CHIRALCEL OJ-H/SFC	5	20	250	SFC Semi-Prep
17455	CHIRALCEL OJ-H/SFC	5	50	250	SFC Preparative
17475	CHIRALCEL OJ-H/SFC	5	30	250	SFC Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (μm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALCEL® OJ-RH</b>					
17711	CHIRALCEL OJ-RH	5	4.0	10	Guard Cartridges
17724	CHIRALCEL OJ-RH	5	4.6	150	Analytical
17745	CHIRALCEL OJ-RH	5	20	250	Semi-Prep Rev Ph
17794	CHIRALCEL OJ-RH	5	2.1	150	Analytical
<b>CHIRALCEL® OJ-3</b>					
17511	CHIRALCEL OJ-3	3	4.0	10	Guard Cartridges
17522	CHIRALCEL OJ-3	3	4.6	50	Analytical
17523	CHIRALCEL OJ-3	3	4.6	100	Analytical
17524	CHIRALCEL OJ-3	3	4.6	150	Analytical
17525	CHIRALCEL OJ-3	3	4.6	250	Analytical
17592	CHIRALCEL OJ-3	3	2.1	50	Analytical
17593	CHIRALCEL OJ-3	3	2.1	100	Analytical
17594	CHIRALCEL OJ-3	3	2.1	150	Analytical
17595	CHIRALCEL OJ-3	3	2.1	250	Analytical
17S82	CHIRALCEL OJ-3/SFC	3	3.0	50	SFC Analytical
17S83	CHIRALCEL OJ-3/SFC	3	3.0	100	SFC Analytical
17S84	CHIRALCEL OJ-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALCEL® OJ-3R</b>					
17811	CHIRALCEL OJ-3R	3	4.0	10	Guard Cartridges
17822	CHIRALCEL OJ-3R	3	4.6	50	Analytical
17823	CHIRALCEL OJ-3R	3	4.6	100	Analytical
17824	CHIRALCEL OJ-3R	3	4.6	150	Analytical
17892	CHIRALCEL OJ-3R	3	2.1	50	Analytical
17893	CHIRALCEL OJ-3R	3	2.1	100	Analytical
17894	CHIRALCEL OJ-3R	3	2.1	150	Analytical
17895	CHIRALCEL OJ-3R	3	2.1	250	Analytical
<b>CHIRALCEL® OK</b>					
18022	CHIRALCEL OK	10	4.6	50	Guard Column
18025	CHIRALCEL OK	10	4.6	250	HPLC Analytical
<b>CHIRALCEL® OX</b>					
63020	CHIRALCEL OX	20	1 kg	–	Bulk CSP
63225	CHIRALCEL OX	20	4.6	250	Method Development
63235	CHIRALCEL OX	20	10	250	Semi-Prep
63242	CHIRALCEL OX	20	20	50	Semi-Prep Guard
63245	CHIRALCEL OX	20	20	250	Semi-Prep
63255	CHIRALCEL OX	20	50	250	Preparative
63256	CHIRALCEL OX	20	50	500	Preparative
63266	CHIRALCEL OX	20	100	500	Preparative
63275	CHIRALCEL OX	20	30	250	Semi-Prep
63935	CHIRALCEL OX/SFC	20	10	250	SFC Semi-Prep
63945	CHIRALCEL OX/SFC	20	20	250	SFC Semi-Prep
63955	CHIRALCEL OX/SFC	20	50	250	SFC Preparative
63975	CHIRALCEL OX/SFC	20	30	250	SFC Semi-Prep
6300E	CHIRALCEL OX-10	10	1 kg	–	Bulk CSP
63G24	CHIRALCEL OX-10/SFC	10	4.6	150	SFC Analytical

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
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63G25	CHIRALCEL OX-10/SFC	10	4.6	250	SFC Analytical
63G94	CHIRALCEL OX-10/SFC	10	2.1	150	SFC Analytical
63G22	CHIRALCEL OX-10/SFC	10	4.6	50	SFC Analytical
63G35	CHIRALCEL OX-10/SFC	10	10	250	SFC Semi-Prep
63G45	CHIRALCEL OX-10/SFC	10	20	250	SFC Semi-Prep
63G55	CHIRALCEL OX-10/SFC	10	50	250	SFC Preparative
63G75	CHIRALCEL OX-10/SFC	10	30	250	SFC Semi-Prep

### CHIRALCEL® OX-H

63311	CHIRALCEL OX-H	5	4.0	10	Guard Cartridges
63324	CHIRALCEL OX-H	5	4.6	150	Analytical
63325	CHIRALCEL OX-H	5	4.6	250	Analytical
63335	CHIRALCEL OX-H	5	10	250	Semi-Prep
63345	CHIRALCEL OX-H	5	20	250	Semi-Prep
63375	CHIRALCEL OX-H	5	30	250	Semi-Prep
63394	CHIRALCEL OX-H	5	2.1	150	Analytical
63422	CHIRALCEL OX-H/SFC	5	4.6	50	SFC Analytical
63423	CHIRALCEL OX-H/SFC	5	4.6	100	SFC Analytical
63435	CHIRALCEL OX-H/SFC	5	10	250	SFC Semi-Prep
63445	CHIRALCEL OX-H/SFC	5	20	250	SFC Semi-Prep
63455	CHIRALCEL OX-H/SFC	5	50	250	SFC Preparative
63475	CHIRALCEL OX-H/SFC	5	30	250	SFC Semi-Prep

### CHIRALCEL® OX-RH

63711	CHIRALCEL OX-RH	5	4.0	10	Guard Cartridges
63724	CHIRALCEL OX-RH	5	4.6	150	Analytical
63745	CHIRALCEL OX-RH	5	20	250	Semi-Prep Rev Ph
63794	CHIRALCEL OX-RH	5	2.1	150	Analytical

### CHIRALCEL® OX-3

63511	CHIRALCEL OX-3	3	4.0	10	Guard Cartridges
63522	CHIRALCEL OX-3	3	4.6	50	Analytical
63523	CHIRALCEL OX-3	3	4.6	100	Analytical
63524	CHIRALCEL OX-3	3	4.6	150	Analytical
63525	CHIRALCEL OX-3	3	4.6	250	Analytical
63592	CHIRALCEL OX-3	3	2.1	50	Analytical
63593	CHIRALCEL OX-3	3	2.1	100	Analytical
63594	CHIRALCEL OX-3	3	2.1	150	Analytical
63595	CHIRALCEL OX-3	3	2.1	250	Analytical
63S82	CHIRALCEL OX-3/SFC	3	3.0	50	SFC Analytical
63S83	CHIRALCEL OX-3/SFC	3	3.0	100	SFC Analytical
63S84	CHIRALCEL OX-3/SFC	3	3.0	150	SFC Analytical

### CHIRALCEL® OX-3R

63811	CHIRALCEL OX-3R	3	4.0	10	Guard Cartridges
63822	CHIRALCEL OX-3R	3	4.6	50	Analytical
63823	CHIRALCEL OX-3R	3	4.6	100	Analytical
63824	CHIRALCEL OX-3R	3	4.6	150	Analytical
63892	CHIRALCEL OX-3R	3	2.1	50	Analytical
63893	CHIRALCEL OX-3R	3	2.1	100	Analytical
63894	CHIRALCEL OX-3R	3	2.1	150	Analytical
63895	CHIRALCEL OX-3R	3	2.1	250	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
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### CHIRALCEL® OZ

42020	CHIRALCEL OZ	20	1 kg	–	Bulk CSP
42225	CHIRALCEL OZ	20	4.6	250	Method Development
42235	CHIRALCEL OZ	20	10	250	Semi-Prep
42242	CHIRALCEL OZ	20	20	50	Semi-Prep Guard
42245	CHIRALCEL OZ	20	20	250	Semi-Prep
42255	CHIRALCEL OZ	20	50	250	Preparative
42256	CHIRALCEL OZ	20	50	500	Preparative
42266	CHIRALCEL OZ	20	100	500	Preparative
42275	CHIRALCEL OZ	20	30	250	Semi-Prep
42935	CHIRALCEL OZ/SFC	20	10	250	SFC Semi-Prep
42945	CHIRALCEL OZ/SFC	20	20	250	SFC Semi-Prep
42955	CHIRALCEL OZ/SFC	20	50	250	SFC Preparative
42975	CHIRALCEL OZ/SFC	20	30	250	SFC Semi-Prep
4200E	CHIRALCEL OZ-10	10	1 kg	–	Bulk CSP
42G24	CHIRALPAK OZ-10/SFC	10	4.6	150	SFC Analytical
42G25	CHIRALPAK OZ-10/SFC	10	4.6	250	SFC Analytical
42G94	CHIRALPAK OZ-10/SFC	10	2.1	150	SFC Analytical
42G22	CHIRALPAK OZ-10/SFC	10	4.6	50	SFC Analytical
42G35	CHIRALPAK OZ-10/SFC	10	10	250	SFC Semi-Prep
42G45	CHIRALPAK OZ-10/SFC	10	20	250	SFC Semi-Prep
42G55	CHIRALPAK OZ-10/SFC	10	50	250	SFC Preparative
42G75	CHIRALPAK OZ-10/SFC	10	30	250	SFC Semi-Prep

### CHIRALCEL® OZ-H

42311	CHIRALCEL OZ-H	5	4.0	10	Guard Cartridges
42324	CHIRALCEL OZ-H	5	4.6	150	Analytical
42325	CHIRALCEL OZ-H	5	4.6	250	Analytical
42335	CHIRALCEL OZ-H	5	10	250	Semi-Prep
42345	CHIRALCEL OZ-H	5	20	250	Semi-Prep
42375	CHIRALCEL OZ-H	5	30	250	Semi-Prep
42394	CHIRALCEL OZ-H	5	2.1	150	Analytical
42422	CHIRALCEL OZ-H/SFC	5	4.6	50	SFC Analytical
42423	CHIRALCEL OZ-H/SFC	5	4.6	100	SFC Analytical
42435	CHIRALCEL OZ-H/SFC	5	10	250	SFC Semi-Prep
42445	CHIRALCEL OZ-H/SFC	5	20	250	SFC Semi-Prep
42455	CHIRALCEL OZ-H/SFC	5	50	250	SFC Preparative
42475	CHIRALCEL OZ-H/SFC	5	30	250	SFC Semi-Prep

### CHIRALCEL® OZ-RH

42711	CHIRALCEL OZ-RH	5	4.0	10	Guard Cartridges
42724	CHIRALCEL OZ-RH	5	4.6	150	Analytical
42745	CHIRALCEL OZ-RH	5	20	250	Semi-Prep Rev Ph
42794	CHIRALCEL OZ-RH	5	2.1	150	Analytical

### CHIRALCEL® OZ-3

42511	CHIRALCEL OZ-3	3	4.0	10	Guard Cartridges
42522	CHIRALCEL OZ-3	3	4.6	50	Analytical
42523	CHIRALCEL OZ-3	3	4.6	100	Analytical
42524	CHIRALCEL OZ-3	3	4.6	150	Analytical
42525	CHIRALCEL OZ-3	3	4.6	250	Analytical
42592	CHIRALCEL OZ-3	3	2.1	50	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE	PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE						
42593	CHIRALCEL OZ-3	3	2.1	100	Analytical	19345	CHIRALPAK AD-H	5	20	250	Semi-Prep						
42594	CHIRALCEL OZ-3	3	2.1	150	Analytical	19375	CHIRALPAK AD-H	5	30	250	Semi-Prep						
42595	CHIRALCEL OZ-3	3	2.1	250	Analytical	19394	CHIRALPAK AD-H	5	2.1	150	Analytical						
42S82	CHIRALCEL OZ-3/SFC	3	3.0	50	SFC Analytical	19422	CHIRALPAK AD-H/SFC	5	4.6	50	SFC Analytical						
42S83	CHIRALCEL OZ-3/SFC	3	3.0	100	SFC Analytical	19423	CHIRALPAK AD-H/SFC	5	4.6	100	SFC Analytical						
42S84	CHIRALCEL OZ-3/SFC	3	3.0	150	SFC Analytical	19435	CHIRALPAK AD-H/SFC	5	10	250	SFC Semi-Prep						
<b>CHIRALCEL® OZ-3R</b>																	
42811	CHIRALCEL OZ-3R	3	4.0	10	Guard Cartridges	19445	CHIRALPAK AD-H/SFC	5	20	250	SFC Semi-Prep						
42822	CHIRALCEL OZ-3R	3	4.6	50	Analytical	19455	CHIRALPAK AD-H/SFC	5	50	250	SFC Preparative						
42823	CHIRALCEL OZ-3R	3	4.6	100	Analytical	19475	CHIRALPAK AD-H/SFC	5	30	250	SFC Semi-Prep						
42824	CHIRALCEL OZ-3R	3	4.6	150	Analytical	<b>CHIRALPAK® AD-RH</b>											
42892	CHIRALCEL OZ-3R	3	2.1	50	Analytical	19711	CHIRALPAK AD-RH	5	4.0	10	Guard Cartridges						
42893	CHIRALCEL OZ-3R	3	2.1	100	Analytical	19724	CHIRALPAK AD-RH	5	4.6	150	Analytical						
42894	CHIRALCEL OZ-3R	3	2.1	150	Analytical	19745	CHIRALPAK AD-RH	5	20	250	Semi-Prep Rev Ph						
42895	CHIRALCEL OZ-3R	3	2.1	250	Analytical	19794	CHIRALPAK AD-RH	5	2.1	150	Analytical						
<b>CHIRALPAK® AD</b>																	
19020	CHIRALPAK AD	20	1 kg	—	Bulk CSP	19511	CHIRALPAK AD-3	3	4.0	10	Guard Cartridges						
19225	CHIRALPAK AD	20	4.6	250	Method Development	19522	CHIRALPAK AD-3	3	4.6	50	Analytical						
19235	CHIRALPAK AD	20	10	250	Semi-Prep	19523	CHIRALPAK AD-3	3	4.6	100	Analytical						
19242	CHIRALPAK AD	20	20	50	Semi-Prep Guard	19524	CHIRALPAK AD-3	3	4.6	150	Analytical						
19245	CHIRALPAK AD	20	20	250	Semi-Prep	19525	CHIRALPAK AD-3	3	4.6	250	Analytical						
19255	CHIRALPAK AD	20	50	250	Preparative	19592	CHIRALPAK AD-3	3	2.1	50	Analytical						
19256	CHIRALPAK AD	20	50	500	Preparative	19593	CHIRALPAK AD-3	3	2.1	100	Analytical						
19266	CHIRALPAK AD	20	100	500	Preparative	19594	CHIRALPAK AD-3	3	2.1	150	Analytical						
19275	CHIRALPAK AD	20	30	250	Semi-Prep	19595	CHIRALPAK AD-3	3	2.1	250	Analytical						
19935	CHIRALPAK AD/SFC	20	10	250	SFC Semi-Prep	19S82	CHIRALPAK AD-3/SFC	3	3.0	50	SFC Analytical						
19945	CHIRALPAK AD/SFC	20	20	250	SFC Semi-Prep	19S83	CHIRALPAK AD-3/SFC	3	3.0	100	SFC Analytical						
19955	CHIRALPAK AD/SFC	20	50	250	SFC Preparative	19S84	CHIRALPAK AD-3/SFC	3	3.0	150	SFC Analytical						
19975	CHIRALPAK AD/SFC	20	30	250	SFC Semi-Prep	<b>CHIRALPAK® AD-3R</b>											
1900E	CHIRALPAK AD-10	10	1 kg	—	Bulk CSP	19811	CHIRALPAK AD-3R	3	4.0	10	Guard Cartridges						
19G24	CHIRALPAK AD-10/SFC	10	4.6	150	SFC Analytical	19822	CHIRALPAK AD-3R	3	4.6	50	Analytical						
19G25	CHIRALPAK AD-10/SFC	10	4.6	250	SFC Analytical	19823	CHIRALPAK AD-3R	3	4.6	100	Analytical						
19G94	CHIRALPAK AD-10/SFC	10	2.1	150	SFC Analytical	19824	CHIRALPAK AD-3R	3	4.6	150	Analytical						
19G22	CHIRALPAK AD-10/SFC	10	4.6	50	SFC Analytical	19892	CHIRALPAK AD-3R	3	2.1	50	Analytical						
19G35	CHIRALPAK AD-10/SFC	10	10	250	SFC Semi-Prep	19893	CHIRALPAK AD-3R	3	2.1	100	Analytical						
19G45	CHIRALPAK AD-10/SFC	10	20	250	SFC Semi-Prep	19894	CHIRALPAK AD-3R	3	2.1	150	Analytical						
19G55	CHIRALPAK AD-10/SFC	10	50	250	SFC Preparative	19895	CHIRALPAK AD-3R	3	2.1	250	Analytical						
19G75	CHIRALPAK AD-10/SFC	10	30	250	SFC Semi-Prep	<b>CHIRALPAK® AS</b>											
19022	CHIRALPAK AD	10	4.6	50	Guard Column	20020	CHIRALPAK AS	20	1 kg	—	Bulk CSP						
19025	CHIRALPAK AD	10	4.6	250	HPLC Analytical	20225	CHIRALPAK AS	20	4.6	250	Method Development						
19035	CHIRALPAK AD	10	10	250	Semi-Prep	20235	CHIRALPAK AS	20	10	250	Semi-Prep						
19045	CHIRALPAK AD	10	20	250	Semi-Prep	20242	CHIRALPAK AS	20	20	50	Semi-Prep Guard						
19094	CHIRALPAK AD	10	2.1	150	HPLC Analytical	20245	CHIRALPAK AS	20	20	250	Semi-Prep						
<b>CHIRALPAK® AD-H</b>																	
19311	CHIRALPAK AD-H	5	4.0	10	Guard Cartridges	20255	CHIRALPAK AS	20	50	250	Preparative						
19324	CHIRALPAK AD-H	5	4.6	150	Analytical	20256	CHIRALPAK AS	20	50	500	Preparative						
19325	CHIRALPAK AD-H	5	4.6	250	Analytical	20266	CHIRALPAK AS	20	100	500	Preparative						
19335	CHIRALPAK AD-H	5	10	250	Semi-Prep	20275	CHIRALPAK AS	20	30	250	Semi-Prep						
						20935	CHIRALPAK AS/SFC	20	10	250	SFC Semi-Prep						

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
20945	CHIRALPAK AS/SFC	20	20	250	SFC Semi-Prep
20955	CHIRALPAK AS/SFC	20	50	250	SFC Preparative
20975	CHIRALPAK AS/SFC	20	30	250	SFC Semi-Prep
2000E	CHIRALPAK AS-10	10	1 kg	—	Bulk CSP
20G24	CHIRALPAK AS-10/SFC	10	4.6	150	SFC Analytical
20G25	CHIRALPAK AS-10/SFC	10	4.6	250	SFC Analytical
20G94	CHIRALPAK AS-10/SFC	10	2.1	150	SFC Analytical
20G22	CHIRALPAK AS-10/SFC	10	4.6	50	SFC Analytical
20G35	CHIRALPAK AS-10/SFC	10	10	250	SFC Semi-Prep
20G45	CHIRALPAK AS-10/SFC	10	20	250	SFC Semi-Prep
20G55	CHIRALPAK AS-10/SFC	10	50	250	SFC Preparative
20G75	CHIRALPAK AS-10/SFC	10	30	250	SFC Semi-Prep
20022	CHIRALPAK AS	10	4.6	50	Guard Column
20025	CHIRALPAK AS	10	4.6	250	HPLC Analytical
20035	CHIRALPAK AS	10	10	250	Semi-Prep
20045	CHIRALPAK AS	10	20	250	Semi-Prep

### CHIRALPAK® AS-H

20311	CHIRALPAK AS-H	5	4.0	10	Guard Cartridges
20324	CHIRALPAK AS-H	5	4.6	150	Analytical
20325	CHIRALPAK AS-H	5	4.6	250	Analytical
20335	CHIRALPAK AS-H	5	10	250	Semi-Prep
20345	CHIRALPAK AS-H	5	20	250	Semi-Prep
20375	CHIRALPAK AS-H	5	30	250	Semi-Prep
20394	CHIRALPAK AS-H	5	2.1	150	Analytical
20422	CHIRALPAK AS-H/SFC	5	4.6	50	SFC Analytical
20423	CHIRALPAK AS-H/SFC	5	4.6	100	SFC Analytical
20435	CHIRALPAK AS-H/SFC	5	10	250	SFC Semi-Prep
20445	CHIRALPAK AS-H/SFC	5	20	250	SFC Semi-Prep
20455	CHIRALPAK AS-H/SFC	5	50	250	SFC Preparative
20475	CHIRALPAK AS-H/SFC	5	30	250	SFC Semi-Prep

### CHIRALPAK® AS-RH

20711	CHIRALPAK AS-RH	5	4.0	10	Guard Cartridges
20724	CHIRALPAK AS-RH	5	4.6	150	Analytical
20745	CHIRALPAK AS-RH	5	20	250	Semi-Prep Rev Ph
20794	CHIRALPAK AS-RH	5	2.1	150	Analytical

### CHIRALPAK® AS-3

20511	CHIRALPAK AS-3	3	4.0	10	Guard Cartridges
20522	CHIRALPAK AS-3	3	4.6	50	Analytical
20523	CHIRALPAK AS-3	3	4.6	100	Analytical
20524	CHIRALPAK AS-3	3	4.6	150	Analytical
20525	CHIRALPAK AS-3	3	4.6	250	Analytical
20592	CHIRALPAK AS-3	3	2.1	50	Analytical
20593	CHIRALPAK AS-3	3	2.1	100	Analytical
20594	CHIRALPAK AS-3	3	2.1	150	Analytical
20595	CHIRALPAK AS-3	3	2.1	250	Analytical
20S82	CHIRALPAK AS-3/SFC	3	3.0	50	SFC Analytical
20S83	CHIRALPAK AS-3/SFC	3	3.0	100	SFC Analytical
20S84	CHIRALPAK AS-3/SFC	3	3.0	150	SFC Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® AS-3R</b>					
20811	CHIRALPAK AS-3R	3	4.0	10	Guard Cartridges
20822	CHIRALPAK AS-3R	3	4.6	50	Analytical
20823	CHIRALPAK AS-3R	3	4.6	100	Analytical
20824	CHIRALPAK AS-3R	3	4.6	150	Analytical
20892	CHIRALPAK AS-3R	3	2.1	50	Analytical
20893	CHIRALPAK AS-3R	3	2.1	100	Analytical
20894	CHIRALPAK AS-3R	3	2.1	150	Analytical
20895	CHIRALPAK AS-3R	3	2.1	250	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® AY</b>					
47020	CHIRALPAK AY	20	1 kg	—	Bulk CSP
47225	CHIRALPAK AY	20	4.6	250	Method Development
47235	CHIRALPAK AY	20	10	250	Semi-Prep
47242	CHIRALPAK AY	20	20	50	Semi-Prep Guard
47245	CHIRALPAK AY	20	20	250	Semi-Prep
47255	CHIRALPAK AY	20	50	250	Preparative
47256	CHIRALPAK AY	20	50	500	Preparative
47266	CHIRALPAK AY	20	100	500	Preparative
47275	CHIRALPAK AY	20	30	250	Semi-Prep
47935	CHIRALPAK AY/SFC	20	10	250	SFC Semi-Prep
47945	CHIRALPAK AY/SFC	20	20	250	SFC Semi-Prep
47955	CHIRALPAK AY/SFC	20	50	250	SFC Preparative
47975	CHIRALPAK AY/SFC	20	30	250	SFC Semi-Prep
4700E	CHIRALPAK AY-10	10	1 kg	—	Bulk CSP
47G24	CHIRALPAK AY-10/SFC	10	4.6	150	SFC Analytical
47G25	CHIRALPAK AY-10/SFC	10	4.6	250	SFC Analytical
47G94	CHIRALPAK AY-10/SFC	10	2.1	150	SFC Analytical
47G22	CHIRALPAK AY-10/SFC	10	4.6	50	SFC Analytical
47G35	CHIRALPAK AY-10/SFC	10	10	250	SFC Semi-Prep
47G45	CHIRALPAK AY-10/SFC	10	20	250	SFC Semi-Prep
47G55	CHIRALPAK AY-10/SFC	10	50	250	SFC Preparative
47G75	CHIRALPAK AY-10/SFC	10	30	250	SFC Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® AY-H</b>					
47311	CHIRALPAK AY-H	5	4.0	10	Guard Cartridges
47324	CHIRALPAK AY-H	5	4.6	150	Analytical
47325	CHIRALPAK AY-H	5	4.6	250	Analytical
47335	CHIRALPAK AY-H	5	10	250	Semi-Prep
47345	CHIRALPAK AY-H	5	20	250	Semi-Prep
47375	CHIRALPAK AY-H	5	30	250	Semi-Prep
47394	CHIRALPAK AY-H	5	2.1	150	Analytical
47422	CHIRALPAK AY-H/SFC	5	4.6	50	SFC Analytical
47423	CHIRALPAK AY-H/SFC	5	4.6	100	SFC Analytical
47435	CHIRALPAK AY-H/SFC	5	10	250	SFC Semi-Prep
47445	CHIRALPAK AY-H/SFC	5	20	250	SFC Semi-Prep
47455	CHIRALPAK AY-H/SFC	5	50	250	SFC Preparative
47475	CHIRALPAK AY-H/SFC	5	30	250	SFC Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE (µm)	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® AY-RH</b>					
47711	CHIRALPAK AY-RH	5	4.0	10	Guard Cartridges
47724	CHIRALPAK AY-RH	5	4.6	150	Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
47745	CHIRALPAK AY-RH	5	20	250	Semi-Prep Rev Ph
47794	CHIRALPAK AY-RH	5	2.1	150	Analytical
<b>CHIRALPAK® AY-3</b>					
47511	CHIRALPAK AY-3	3	4.0	10	Guard Cartridges
47522	CHIRALPAK AY-3	3	4.6	50	Analytical
47523	CHIRALPAK AY-3	3	4.6	100	Analytical
47524	CHIRALPAK AY-3	3	4.6	150	Analytical
47525	CHIRALPAK AY-3	3	4.6	250	Analytical
47592	CHIRALPAK AY-3	3	2.1	50	Analytical
47593	CHIRALPAK AY-3	3	2.1	100	Analytical
47594	CHIRALPAK AY-3	3	2.1	150	Analytical
47595	CHIRALPAK AY-3	3	2.1	250	Analytical
47S82	CHIRALPAK AY-3/SFC	3	3.0	50	SFC Analytical
47S83	CHIRALPAK AY-3/SFC	3	3.0	100	SFC Analytical
47S84	CHIRALPAK AY-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® AY-3R</b>					
47811	CHIRALPAK AY-3R	3	4.0	10	Guard Cartridges
47822	CHIRALPAK AY-3R	3	4.6	50	Analytical
47823	CHIRALPAK AY-3R	3	4.6	100	Analytical
47824	CHIRALPAK AY-3R	3	4.6	150	Analytical
47892	CHIRALPAK AY-3R	3	2.1	50	Analytical
47893	CHIRALPAK AY-3R	3	2.1	100	Analytical
47894	CHIRALPAK AY-3R	3	2.1	150	Analytical
47895	CHIRALPAK AY-3R	3	2.1	250	Analytical
<b>CHIRALPAK® AZ</b>					
61020	CHIRALPAK AZ	20	1 kg	—	Bulk CSP
61225	CHIRALPAK AZ	20	4.6	250	Method Development
61235	CHIRALPAK AZ	20	10	250	Semi-Prep
61242	CHIRALPAK AZ	20	20	50	Semi-Prep Guard
61245	CHIRALPAK AZ	20	20	250	Semi-Prep
61255	CHIRALPAK AZ	20	50	250	Preparative
61256	CHIRALPAK AZ	20	50	500	Preparative
61266	CHIRALPAK AZ	20	100	500	Preparative
61275	CHIRALPAK AZ	20	30	250	Semi-Prep
61935	CHIRALPAK AZ/SFC	20	10	250	SFC Semi-Prep
61945	CHIRALPAK AZ/SFC	20	20	250	SFC Semi-Prep
61955	CHIRALPAK AZ/SFC	20	50	250	SFC Preparative
61975	CHIRALPAK AZ/SFC	20	30	250	SFC Semi-Prep
6100E	CHIRALPAK AZ-10	10	1 kg	—	Bulk CSP
61G24	CHIRALPAK AZ-10/SFC	10	4.6	150	SFC Analytical
61G25	CHIRALPAK AZ-10/SFC	10	4.6	250	SFC Analytical
61G94	CHIRALPAK AZ-10/SFC	10	2.1	150	SFC Analytical
61G22	CHIRALPAK AZ-10/SFC	10	4.6	50	SFC Analytical
61G35	CHIRALPAK AZ-10/SFC	10	10	250	SFC Semi-Prep
61G45	CHIRALPAK AZ-10/SFC	10	20	250	SFC Semi-Prep
61G55	CHIRALPAK AZ-10/SFC	10	50	250	SFC Preparative
61G75	CHIRALPAK AZ-10/SFC	10	30	250	SFC Semi-Prep

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® AZ-H</b>					
61311	CHIRALPAK AZ-H	5	4.0	10	Guard Cartridges
61324	CHIRALPAK AZ-H	5	4.6	150	Analytical
61325	CHIRALPAK AZ-H	5	4.6	250	Analytical
61335	CHIRALPAK AZ-H	5	10	250	Semi-Prep
61345	CHIRALPAK AZ-H	5	20	250	Semi-Prep
61375	CHIRALPAK AZ-H	5	30	250	Semi-Prep
61394	CHIRALPAK AZ-H	5	2.1	150	Analytical
61422	CHIRALPAK AZ-H/SFC	5	4.6	50	SFC Analytical
61423	CHIRALPAK AZ-H/SFC	5	4.6	100	SFC Analytical
61435	CHIRALPAK AZ-H/SFC	5	10	250	SFC Semi-Prep
61445	CHIRALPAK AZ-H/SFC	5	20	250	SFC Semi-Prep
61455	CHIRALPAK AZ-H/SFC	5	50	250	SFC Preparative
61475	CHIRALPAK AZ-H/SFC	5	30	250	SFC Semi-Prep
<b>CHIRALPAK® AZ-RH</b>					
61711	CHIRALPAK AZ-RH	5	4.0	10	Guard Cartridges
61724	CHIRALPAK AZ-RH	5	4.6	150	Analytical
61745	CHIRALPAK AZ-RH	5	20	250	Semi-Prep Rev Ph
61794	CHIRALPAK AZ-RH	5	2.1	150	Analytical
<b>CHIRALPAK® AZ-3</b>					
61511	CHIRALPAK AZ-3	3	4.0	10	Guard Cartridges
61522	CHIRALPAK AZ-3	3	4.6	50	Analytical
61523	CHIRALPAK AZ-3	3	4.6	100	Analytical
61524	CHIRALPAK AZ-3	3	4.6	150	Analytical
61525	CHIRALPAK AZ-3	3	4.6	250	Analytical
61592	CHIRALPAK AZ-3	3	2.1	50	Analytical
61593	CHIRALPAK AZ-3	3	2.1	100	Analytical
61594	CHIRALPAK AZ-3	3	2.1	150	Analytical
61595	CHIRALPAK AZ-3	3	2.1	250	Analytical
61S82	CHIRALPAK AZ-3/SFC	3	3.0	50	SFC Analytical
61S83	CHIRALPAK AZ-3/SFC	3	3.0	100	SFC Analytical
61S84	CHIRALPAK AZ-3/SFC	3	3.0	150	SFC Analytical
<b>CHIRALPAK® AZ-3R</b>					
61811	CHIRALPAK AZ-3R	3	4.0	10	Guard Cartridges
61822	CHIRALPAK AZ-3R	3	4.6	50	Analytical
61823	CHIRALPAK AZ-3R	3	4.6	100	Analytical
61824	CHIRALPAK AZ-3R	3	4.6	150	Analytical
61892	CHIRALPAK AZ-3R	3	2.1	50	Analytical
61893	CHIRALPAK AZ-3R	3	2.1	100	Analytical
61894	CHIRALPAK AZ-3R	3	2.1	150	Analytical
61895	CHIRALPAK AZ-3R	3	2.1	250	Analytical
<b>CROWN ETHER COLUMNS</b>					
<b>IMMOBILIZED CROWNPAK® CR-I</b>					
53784	CROWNPAK CR-I(+)	5	3.0	150	Analytical
54784	CROWNPAK CR-I(-)	5	3.0	150	Analytical

## 2018 Product List

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>COATED CROWNPAK® CR</b>					
27711	CROWNPAK CR	5	4.0	10	Guard Column
27714	CROWNPAK CR(+)	5	4.0	150	Analytical
28714	CROWNPAK CR(-)	5	4.0	150	Analytical

## ZWITTERIONIC COLUMNS

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® ZWIX(+)</b>					
51334	CHIRALPAK ZWIX(+)	5	10	150	Semi-Prep
51335	CHIRALPAK ZWIX(+)	5	10	250	Semi-Prep
51344	CHIRALPAK ZWIX(+)	5	20	150	Semi-Prep
51345	CHIRALPAK ZWIX(+)	5	20	250	Semi-Prep
51514	CHIRALPAK ZWIX(+)	3	4.0	150	Analytical
51515	CHIRALPAK ZWIX(+)	3	4.0	250	Analytical
51584	CHIRALPAK ZWIX(+)	3	3.0	150	Analytical
51585	CHIRALPAK ZWIX(+)	3	3.0	250	Analytical

## CHIRALPAK® ZWIX(-)

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® ZWIX(-)</b>					
52334	CHIRALPAK ZWIX(-)	5	10	150	Semi-Prep
52335	CHIRALPAK ZWIX(-)	5	10	250	Semi-Prep
52344	CHIRALPAK ZWIX(-)	5	20	150	Semi-Prep
52345	CHIRALPAK ZWIX(-)	5	20	250	Semi-Prep
52514	CHIRALPAK ZWIX(-)	3	4.0	150	Analytical
52515	CHIRALPAK ZWIX(-)	3	4.0	250	Analytical
52584	CHIRALPAK ZWIX(-)	3	3.0	150	Analytical
52585	CHIRALPAK ZWIX(-)	3	3.0	250	Analytical

## ANION EXCHANGE COLUMNS

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK QD-AX</b>					
31311	CHIRALPAK QD-AX	5	4.0	10	Guard Cartridges
31324	CHIRALPAK QD-AX	5	4.6	150	Analytical
31344	CHIRALPAK QD-AX	5	20	150	HPLC Semi-Prep
31394	CHIRALPAK QD-AX	5	2.1	150	Analytical
32311	CHIRALPAK QN-AX	5	4.0	10	Guard Cartridges
32324	CHIRALPAK QN-AX	5	4.6	150	Analytical
32344	CHIRALPAK QN-AX	5	20	150	HPLC Semi-Prep
32394	CHIRALPAK QN-AX	5	2.1	150	Analytical

## LIGAND EXCHANGE COLUMNS

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK® MA(+)</b>					
21822	CHIRALPAK MA(+)	3	4.6	50	Analytical

## CHIRALPAK® WH

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>CHIRALPAK WH</b>					
25622	CHIRALPAK WH	10	4.6	50	Guard Column
25625	CHIRALPAK WH	10	4.6	250	Analytical

## SFC ACHIRAL COLUMNS

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>DAICEL DCPAK PBT</b>					
AA424	DAICEL DCpak PBT	5	4.6	150	SFC Analytical
AA425	DAICEL DCpak PBT	5	4.6	250	SFC Analytical

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>DAICEL DCPAK PBT</b>					
AA435	DAICEL DCpak PBT	5	10	250	SFC Semi-Prep
AA445	DAICEL DCpak PBT	5	20	250	SFC Semi-Prep
AA494	DAICEL DCpak PBT	5	2.1	150	SFC Analytical
AA495	DAICEL DCpak PBT	5	2.1	250	SFC Analytical
AAS22	DAICEL DCpak PBT	3	4.6	50	SFC Analytical
AAS23	DAICEL DCpak PBT	3	4.6	100	SFC Analytical
AAS24	DAICEL DCpak PBT	3	4.6	150	SFC Analytical
AAS25	DAICEL DCpak PBT	3	4.6	250	SFC Analytical
AAS82	DAICEL DCpak PBT	3	3.0	50	SFC Analytical
AAS83	DAICEL DCpak PBT	3	3.0	100	SFC Analytical
AAS84	DAICEL DCpak PBT	3	3.0	150	SFC Analytical
AAS92	DAICEL DCpak PBT	3	2.1	50	SFC Analytical
AAS93	DAICEL DCpak PBT	3	2.1	100	SFC Analytical
AAS94	DAICEL DCpak PBT	3	2.1	150	SFC Analytical

## DAICEL DCPAK P4VP

PART NUMBER	PRODUCT NAME	PARTICLE SIZE ( $\mu\text{m}$ )	ID (mm)	LENGTH (mm)	PRODUCT TYPE
<b>AB424 DAICEL DCpak P4VP</b>					
AB425	DAICEL DCpak P4VP	5	4.6	250	SFC Analytical
AB435	DAICEL DCpak P4VP	5	10	250	SFC Semi-Prep
AB445	DAICEL DCpak P4VP	5	20	250	SFC Semi-Prep
AB494	DAICEL DCpak P4VP	5	2.1	150	SFC Analytical
AB495	DAICEL DCpak P4VP	5	2.1	250	SFC Analytical
ABS22	DAICEL DCpak P4VP	3	4.6	50	SFC Analytical
ABS23	DAICEL DCpak P4VP	3	4.6	100	SFC Analytical
ABS24	DAICEL DCpak P4VP	3	4.6	150	SFC Analytical
ABS25	DAICEL DCpak P4VP	3	4.6	250	SFC Analytical
ABS82	DAICEL DCpak P4VP	3	3.0	50	SFC Analytical
ABS83	DAICEL DCpak P4VP	3	3.0	100	SFC Analytical
ABS84	DAICEL DCpak P4VP	3	3.0	150	SFC Analytical
ABS92	DAICEL DCpak P4VP	3	2.1	50	SFC Analytical
ABS93	DAICEL DCpak P4VP	3	2.1	100	SFC Analytical
ABS94	DAICEL DCpak P4VP	3	2.1	150	SFC Analytical

## COLUMN ACCESSORIES

00011	Cartridge Holder	—	4.0	10	Holder
00024	Column Jacket, 15 cm	—	4.6	150	Jacket
00025	Column Jacket, 25 cm	—	4.6	250	Jacket
00060 <sup>†</sup>	Pre Column Filter Assembly	—	21.2	—	Holder and Filter
00061	Pre Column Filter, 2 micron	—	21.2	—	Replacement Filter
00062	Assembly O-Rings	—	—	—	Replacement O-Rings, set of 2
FK002	Guard Filter Kit (1 holder, 3 glass filters, 2 fittings and 1 tubing)	—	—	—	Guard Filter
FR002	Replacement Guard Filters (x6)	—	—	—	Guard Filters

<sup>†</sup>Free with 2 and 3 cm SFC column orders

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#### CHIRAL TECHNOLOGIES, INC. STANDARD TERMS AND CONDITIONS OF SALE

The following terms and conditions (the "Terms and Conditions") apply to all sales of chiral chromatography products (collectively, the "Products") by Chiral Technologies, Inc. ("CHIRAL") to its customers (each, a "CUSTOMER"). References to a "Party" or to the "Parties" herein shall mean either CHIRAL or CUSTOMER or each of them together. Each of the Parties agrees that it is entering into this agreement for the purpose of purchasing or selling, as the case may be, the Products, which the CUSTOMER shall only use for research purposes and not in connection with any other medical, clinical or other use. By ordering or accepting any Products from CHIRAL, CUSTOMER agrees to the foregoing and to be legally bound as follows:

**SECTION 1. FORMATION OF THE CONTRACT.** An agreement between the Parties, if made and entered into by way of a purchase order and an acceptance thereof, shall be deemed to have been made and entered into when CUSTOMER has issued a written purchase order and CHIRAL has issued a written acceptance of said purchase order. Any alteration and/or supplement to any purchase order shall be valid only if such alteration and/or supplement is confirmed in writing by CHIRAL.

**SECTION 2. QUOTATIONS.** Unless otherwise specified in a written statement signed by CHIRAL, no price quote by CHIRAL shall be binding. Any binding price quote given by CHIRAL shall be effective for thirty (30) days, unless otherwise specified in a written statement signed by CHIRAL.

**SECTION 3. TERMS OF PAYMENT.** CHIRAL will invoice CUSTOMER for Products upon shipment. All payments owed by CUSTOMER to CHIRAL, including, without limitation, payment for the purchase price of Products purchased, applicable taxes, and cancellation charges, are payable in U.S. Dollars and will be due thirty (30) days after the invoice date of the Products. Interest shall accrue at the rate of ten percent (10%) per annum on the amount due commencing thirty (30) days after the invoice date; provided that, in the event that such interest rate violates applicable usury laws, such rate shall be reduced to the highest rate (if any) allowed by such laws.

**SECTION 4. DELIVERY OF PRODUCTS; CANCELLATION AND DELAYED ORDERS.** CHIRAL and CUSTOMER shall agree on a mutually convenient delivery schedule for Products. All Products shall be shipped F.O.B. CHIRAL's facility. CHIRAL reserves the right to ship Products prior to the agreed shipment date in order to accommodate CHIRAL's overall delivery schedules. CUSTOMER shall have no right to cancel any purchase order or to reschedule any scheduled delivery of Products covered by a purchase order, except with CHIRAL's written permission.

**SECTION 5. INSPECTION.** Upon receipt of Products, CUSTOMER shall promptly inspect such Products. If upon such inspection, CUSTOMER finds any Products to be defective, CUSTOMER shall promptly provide CHIRAL with written notification of such condition.

**SECTION 6. TRADEMARKS.** CUSTOMER shall not remove from the Products (or their packaging or documentation), or alter, any of CHIRAL's trademarks, trade names, logos, patent or copyright notices, or other notices or markings, or add any other notices or markings to the Products, without the prior express written consent of CHIRAL.

#### SECTION 7. LIMITED WARRANTY.

**A. WARRANTY TERMS.** Subject to the provisions of this Section 7 and Section 8 below, with respect to each Product sold by CHIRAL hereunder, CHIRAL warrants that for a period of one (1) year from the date of sale (the "Warranty Period") such Product shall be free from defects in materials or faulty workmanship and shall comply with quality specifications for such Product published by CHIRAL. The warranties provided by CHIRAL in this Section 7.A are the only warranties provided by CHIRAL with respect to the Products sold hereunder, and may be modified or amended only by a written instrument signed by CHIRAL and accepted by CUSTOMER.

**B. WARRANTY CLAIMS.** If, during the applicable Warranty Period for a Product sold by CHIRAL hereunder, it is determined that Product does not conform to the limited warranty set forth in Section 7.A, then CUSTOMER shall notify CHIRAL of such condition and request authorization to return the Product to exercise the CUSTOMER'S warranty rights. CUSTOMER may, after obtaining a return authorization number and shipping instructions from CHIRAL, return such Product to CHIRAL. Upon receipt of any such Product during the applicable Warranty Period, CHIRAL shall, at its option and expense (1) repair or replace such Product, and ship such Product to the location from which it was returned to CHIRAL, or (2) give CUSTOMER a credit for such Product. All replaced Products or Products returned to CHIRAL for credit shall become CHIRAL's property. Repair or replacement of a Product does not extend the Warranty Period for such Product.

**C. OTHER LIMITATIONS.** THE EXPRESS LIMITED WARRANTIES OF CHIRAL STATED IN SECTION 7.A ABOVE DO NOT APPLY TO (1) PROTEIN-BASED PRODUCTS, (2) PRODUCTS USED FOR MEDICAL, CLINICAL OR ANY OTHER USE OTHER THAN RESEARCH USE, (3) PRODUCTS WHICH HAVE BEEN IMPROPERLY TRANSPORTED, INSTALLED OR USED, STORED, ALTERED, MODIFIED, REPAIRED OR SERVICED IN ANY RESPECT, EXCEPT BY CHIRAL OR ITS REPRESENTATIVES, (4) PRODUCTS WHERE SERIAL NUMBERS HAVE BEEN REMOVED OR ALTERED, (5) PRODUCTS USED BY ANY PERSON OR ENTITY OTHER THAN CUSTOMER, OR (6) PRODUCTS THE INVOICE FOR WHICH HAS NOT BEEN PAID IN FULL IN ACCORDANCE WITH THE PAYMENT TERMS. NO ACTION BY CUSTOMER ARISING UNDER SECTION 7.A ABOVE OR OTHERWISE IN CONNECTION WITH THE SALE OF THE PRODUCTS MAY BE BROUGHT MORE THAN ONE (1) YEAR AFTER THE CAUSE OF ACTION FIRST ARISES.

**D. DISCLAIMER.** THE EXPRESS WARRANTIES OF CHIRAL STATED IN SECTION 7.A ABOVE ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. THE EXPRESS OBLIGATIONS OF CHIRAL STATED IN SECTION 7.A ABOVE ARE IN LIEU OF ANY OTHER LIABILITY OR OBLIGATION OF CHIRAL, INCLUDING, WITHOUT LIMITATION, ANY LIABILITY OR OBLIGATION FOR DAMAGE, LOSS OR INJURY (WHETHER DIRECT, INDIRECT, EXEMPLARY, SPECIAL, CONSEQUENTIAL OR INCIDENTAL) ARISING OUT OF OR IN CONNECTION WITH THE DELIVERY, USE OR PERFORMANCE OF THE PRODUCTS.

**SECTION 8. LIMITATION OF LIABILITY.** NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THESE TERMS AND CONDITIONS: CHIRAL SHALL NOT BE LIABLE FOR ANY EXEMPLARY, SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND (INCLUDING, WITHOUT LIMITATION, LOST PROFITS), EVEN IF CHIRAL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING STATES THE ENTIRE LIABILITY OF CHIRAL WITH REGARD TO THESE TERMS AND CONDITIONS AND THE PRODUCTS. THE LIMITATIONS OF LIABILITY CONTAINED IN SECTION 7 AND THIS SECTION 8 ARE A FUNDAMENTAL PART OF THE BASIS OF CHIRAL'S BARGAIN HEREUNDER, AND CHIRAL WOULD NOT SELL THE PRODUCTS ABSENT SUCH LIMITATIONS.

#### SECTION 9. GENERAL.

**A. ENTIRE AGREEMENT.** These Terms and Conditions constitute the final, complete and exclusive agreement between the Parties relating to the subject matter hereof, and supersedes all prior or contemporaneous proposals, understandings, representations, warranties, promises and other communications, whether oral or written, relating to such subject matter (including, without limitation, any prior "Standard Terms and Conditions" published by CHIRAL). Except for agreements of the Parties set forth in writing and signed by an authorized representative of CHIRAL relating to the type, quantity, quality/specifications, delivery, forecasting schedule and pricing of any Product, any term or condition in any purchase order, confirmation or other document furnished by CUSTOMER at any time which is in any way inconsistent with or in addition to the terms and conditions set forth herein is hereby expressly rejected, and CHIRAL's acceptance of any purchase order of CUSTOMER is expressly made in reliance on CUSTOMER's assent to all terms and conditions hereof. No deviation from these Terms and Conditions shall be valid unless confirmed in writing by an authorized representative of CHIRAL.

**B. GOVERNING LAW.** These Terms and Conditions shall for all purposes be governed by and interpreted in accordance with the laws of the State of Pennsylvania without regard to any choice of law provision that would result in the application of the laws of any jurisdiction other than the internal laws of the State of Pennsylvania to these Terms and Conditions. The Parties expressly exclude application of the United Nations Convention on Contracts for the International Sale of Goods.

**C. ARBITRATION.** If a dispute arises related to the purchase and sale of the Products and the Parties have not resolved such dispute through negotiation, the Parties agree to submit the dispute to arbitration. Any arbitration proceeding relating to the Agreement shall be presided over by one arbitrator who shall be agreed to by the Parties, provided that if the Parties are unable to agree on an arbitrator, then each Party shall name one arbitrator and the two arbitrators will together designate a third arbitrator, and the three arbitrators so chosen shall preside over the arbitration proceeding. The arbitration shall be held in Pennsylvania in accordance with the rules of the American Arbitration Association. Arbitration proceedings shall be conducted in the English language. Each Party agrees that the final determination/decision of the arbitrators presiding over the proceeding shall be binding on it. Notwithstanding the foregoing, the Parties may apply to any court of competent jurisdiction for preliminary or interim equitable relief, without breach of this arbitration provision. The prevailing Party in any dispute related hereto, whether in a court of law or in arbitration, shall have its reasonable costs and expenses related to such dispute reimbursed by the non-prevailing Party.

**D. SEVERABILITY.** If any provision of these Terms and Conditions is held by a court of competent jurisdiction to be unenforceable for any reason, the remaining provisions hereof shall be unaffected and remain in full force and effect.

**E. MODIFICATIONS.** Neither Party may modify, amend, supplement or otherwise change these Terms and Conditions without the prior written consent of the other Party. Any such future modification, amendment, supplement or other change (a "Change") shall apply only with respect to orders accepted after the effective date of such Change. All waivers must be in writing.

**F. ASSIGNMENTS.** No right of either Party under these Terms and Conditions shall be assigned or otherwise transferred without the prior express written consent of the other Party, and any attempt to assign or otherwise transfer any rights hereunder, without such consent, shall be void. Subject to the preceding sentence, these Terms and Conditions shall bind the Parties hereto and their permitted successors and assigns.

**G. MISCELLANEOUS.** These Terms and Conditions are not intended to provide any rights or remedies to any person or entity other than CHIRAL and CUSTOMER and their respective permitted successors and assigns (if any).

**H. FORCE MAJEURE.** CHIRAL shall not be responsible for any failure to fulfill its obligations hereunder due to causes beyond its reasonable control, including, without limitation, as a result of fire, explosion, earthquake, storm, flood or other weather, unavailability of necessary utilities or raw materials, strike, lockout, unavailability of components, activities of a combination of workmen or other labor difficulties, war, insurrection, riot, act of God or the public enemy, law, act, order, omission, export control regulation, proclamation, decree, regulation, ordinance, or instructions of Government or other public authorities, or judgment or decree of a court of competent jurisdiction. If any such contingency occurs, CHIRAL may elect to either (a) suspend its obligations for the duration of the delaying cause, or (b) extend the time period to complete its obligations by the length of time the contingency endures. In the event of CHIRAL's inability to supply any or all of the Products due to any of the above circumstances, CHIRAL will have the right to allocate its available supply among its CUSTOMERS, or any of them, as CHIRAL, in its sole discretion, elects without liability to CUSTOMER for any failure of performance that may result therefrom. To the extent that no allocation is made to CUSTOMER, either CUSTOMER or CHIRAL will have the right to terminate any affected purchase orders by prompt written notice to the other.

**I. CONSTRUCTION AND SURVIVAL.** Notwithstanding anything to the contrary contained in herein, these Terms and Conditions shall survive the purchase and sale of the Products hereunder.



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