

# USP-NF Column List

| No.  | Packing Material  | Corresponding Column   | Page   |
|------|---|--|--|
| L1   | Octadecyl silane chemically bonded to porous or non-porous silica or ceramic micro-particles or superficially porous particles, 1.5 to 10 $\mu\text{m}$ in diameter, or a monolithic rod.   | Silica C18M 4D, C18M 4E<br>C18U 2B, C18U 2D  | 24<br>24   |
| L17  | Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the hydrogen form, 6 to 12 $\mu\text{m}$ in diameter.  | SUGAR SH1011, SH1011 8C<br>SUGAR SH1821<br>RSpak KC-811, KC-811 6E   | 30<br>30<br>30   |
| L19  | Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the calcium form, 5 - 15 $\mu\text{m}$ in diameter.  | SUGAR SC1011<br>SUGAR SC1211<br>EP SC1011-7F<br>USPak MN-431   | 26<br>26<br>27<br>27   |
| L20  | Dihydroxypropane groups chemically bonded to porous silica or hybrid particles, 1.5 to 10 $\mu\text{m}$ in diameter, or a monolithic silica rod.  | PROTEIN KW-800 series<br>KW400 series<br>PROTEIN LW-803<br>PROTEIN LW-403 4D   | 36<br>36<br>37<br>37   |
| L21  | A rigid, spherical styrenedivinylbenzene copolymer, 3 to 30 $\mu\text{m}$ in diameter.  | RSpak DS-613, DS-413<br>GPC KF-800 series, KD-800 series, KF-400HQ series, HK-400 series, LF series  | 16<br>48, 50, 52, 54, 56   |
| L22  | A cation-exchange resin made of porous polystyrene gel with sulfonic acid groups, 5 - 15 $\mu\text{m}$ in diameter.   | SUGAR SC1011<br>SUGAR SP0810, SP0810 8C<br>SUGAR KS-800 series<br>RSpak DC-613<br>SUGAR SZ5532<br>SUGAR SC1211<br>EP SC1011-7F<br>USPak MN-431<br>SUGAR SH1011, SH1011 8C<br>SUGAR SH1821<br>RSpak KC-811, KC-811 6E<br>Cxpak P-421S | 26<br>26<br>26<br>26<br>26<br>26<br>26<br>27<br>27<br>30<br>30<br>30<br>62 |
| L23  | An anion-exchange resin made of porous polymethacrylate or polyacrylate gel with quarternary ammonium groups, 7-12 $\mu\text{m}$ in size.   | IC I-524A<br>IEC QA-825  | 32<br>62   |
| L25  | Packing having the capacity to separate compounds with a molecular weight range from 100-5000 (as determined by polyethylene oxide), applied to neutral, anionic, and cationic water-soluble polymers. A polymethacrylate resin base, cross-linked with polyhydroxylated ether (surface contained some residual carboxyl functional groups) was found suitable. | OHpak SB-802 HQ<br>OHpak SB-802.5 HQ<br>OHpak LB-802.5   | 40<br>40<br>41   |
| L33  | Packing having the capacity to separate dextrans by molecular size over a range of 4,000 to 500,000 Da. It is spherical, silica-based, and processed to provide pH stability.   | PROTEIN KW-800 series<br>KW400 series<br>PROTEIN LW-803, LW-403 4D   | 36<br>36<br>37   |
| L34  | Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the lead form, 7 to 9 $\mu\text{m}$ in diameter.   | SUGAR SP0810, SP0810 8C  | 26   |
| L37  | Packing having the capacity to separate proteins by molecular size over a range of 2,000 to 40,000 Da. It is a polymethacrylate gel.  | OHpak SB-803 HQ<br>OHpak LB-803  | 40<br>41   |
| L38  | A methacrylate-based size-exclusion packing for water-soluble samples.  | OHpak SB-800 HQ series<br>OHpak LB-800 series  | 40<br>41   |
| L39  | A hydrophilic polyhydroxymethacrylate gel of totally porous spherical resin.  | ODP2 HP series<br>RSpak DM-614<br>OHpak SB-800 HQ series<br>OHpak LB-800 series  | 12<br>16<br>40<br>41   |
| L45  | Beta cyclodextrin, R,S-hydroxypropyl ether derivative, bonded to porous silica particles, 3 to 10 $\mu\text{m}$ in diameter.  | ORpak CDBS-453   | 64   |
| L58  | Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the sodium form, about 6 to 30 $\mu\text{m}$ in diameter.  | SUGAR KS-800 series<br>RSpak DC-613<br>Cxpak P-421S  | 26<br>26<br>62   |
| L59  | Packing for the size-exclusion separations of proteins (separation by molecular weight) over the range of 5 to 7000 kDa. The packing is spherical 1.5 - 10 $\mu\text{m}$ , silica or hybrid packing with a hydrophilic coating.   | PROTEIN KW-800 series<br>KW400 series<br>PROTEIN LW-803, LW-403 4D   | 36<br>36<br>37   |
| L67  | Porous vinyl alcohol copolymer with a C18 alkyl group attached to the hydroxyl group of the polymer, 2 to 10 $\mu\text{m}$ in diameter.   | Asahipak ODP-50 series   | 14   |
| L71  | A rigid, spherical polymethacrylate, 4 to 6 $\mu\text{m}$ in diameter.  | RSpak DE-613, DE-413, DE-213   | 16   |
| L76  | Silica based, weak cation-exchange material, 5 $\mu\text{m}$ in diameter. Substrate is surface polymerized polybutadiene-maleic acid to provide carboxylic acid functionalities. Capacity not less than 29 $\mu\text{Eq}/\text{column}$ .   | IC YK-421  | 33   |
| L82  | Polyamine chemically bonded to cross-linked polyvinyl alcohol polymer, 5 $\mu\text{m}$ in diameter.   | Asahipak NH2P-50 series, NH2P-40 series  | 22   |
| L89  | Packing having the capacity to separate compounds with a molecular weight range from 100 - 3000 (as determined by polyethylene oxide), applied to neutral and anionic water-soluble polymers. A polymethacrylate resin base, cross-linked with polyhydroxylate ether (surface contains some residual cationic functional groups).                               | OHpak SB-802 HQ, SB-802.5 HQ<br>OHpak LB-802.5   | 40<br>41   |
| L125 | Polyvinyl alcohol polymer gel weak cation-exchange packing material, 5 $\mu\text{m}$ porous particles. The surface is polymerized with polybutadiene-maleic acid to provide carboxylic acid functionalities. The Capacity is not less than 1 $\text{mEq}/\text{column}$ .   | IC YS-50   | 33   |

Note: Please check USP's "Chromatographic Database" for the latest information.