



## Packed Columns

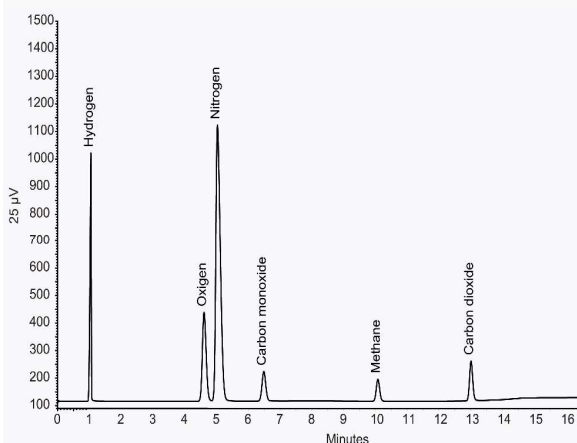


DESCRIPTION	SOLID SUPPORT	USP CODE
Siliceous earth	Silcoport® Chromosorb® WHP	<b>S1A</b>
Siliceous earth, treated as S1A and both acid-and base-washed	Silcoport® WBW	<b>S1AB</b>
Crushed firebrick, calcined or burned with a clay binder above 900°C, acid-washed, may be silanized	Chromosorb® PAW or PAW-DMCS	<b>S1C</b>
Untreated siliceous earth	Chromosorb® W NAW	<b>S1NS</b>
Styrene-divinylbenzene copolymer with nominal surface area of less than 50m <sup>2</sup> /g and ave. pore diameter of 0.3 - 0.4 mm	Chromosorb® 101	<b>S2</b>
Styrene-divinylbenzene copolymer with nominal surface area of 500 to 600m <sup>2</sup> /g and ave. pore diameter of 0.0075 mm	Hayesep® Q, Porapak® Q	<b>S3</b>
Styrene-divinylbenzene copolymer with aromatic -O and -N groups having a nominal surface area of 400 to 600m <sup>2</sup> /g and ave. pore diameter of 0.0076 mm	Hayesep® R, Porapak® R	<b>S4</b>
High molecular weight tetrafluorethylene polymer, 40-60 mesh	Chromosorb® T	<b>S5</b>
Styrene-divinylbenzene copolymer with nominal surface area of 250-350m <sup>2</sup> /g and ave. pore diameter of 0.0091 mm	Chromosorb® 102, Porapak® P, Hayesep® P	<b>S6</b>
Graphitized carbon having a nominal surface area of 12m <sup>2</sup> /g	CarboBlack® C, Carbopack® C	<b>S7</b>
Copolymer of 4-vinyl-pyridine and styrene divinylbenzene	Hayesep® S, Porapak® S	<b>S8</b>
Porous polymer based on 2,6-diphenyl-p-phenylene oxide	Tenax® TA	<b>S9</b>
Highly cross-linked copolymer of acrylonitrile and divinylbenzene	Hayesep® C	<b>S10</b>
Graphitized carbon having a nominal surface area of 100m <sup>2</sup> /g, modified with small amounts of petrolatum and polyethylene glycol compound	CarboBlack® B 80/120 3% Rt 1500 Carbopack® B 80/120 3% SP-1500	<b>S11</b>
Graphitized carbon having a nominal surface area of 100m <sup>2</sup> /g	CarboBlack® B, Carbopack® B	<b>S12</b>

# Packed Columns - Solid Supports for USP Methods

## PERMANENT GASES ANALYSIS

Column: Permanent Gases 4,6 m x 1/8" x 2,1 mm TR-GC1462010  
 Carrier Gas: He, 30 ml/min  
 Injector: 150 °C  
 Detector: TCD, 200 °C  
 Oven: 35 °C (5min) to 225 °C (10 min) @ 20 °C/min  
 Sample: 50 µl permanent gases in helium



These columns have been used for the last 50 years in all kinds of analyses for gas chromatography.

Nowadays packed column use is understandable due to the wide range of solid support packings available and to their high on-column sample capacity. These aspects make packed columns quite versatile for a wide range of applications.

Teknokroma has been manufacturing packed columns since its inception and has always provided a wide range of different packing material and the latest advances.

Ask for our micro-packed columns (0,53 mm, 0,75mm and 1,00mm ID) to reduce gas consumption and to increase efficiency.

**WE CAN SUPPLY ANY KIND OF COLUMNS...  
JUST ASK FOR THEM!**

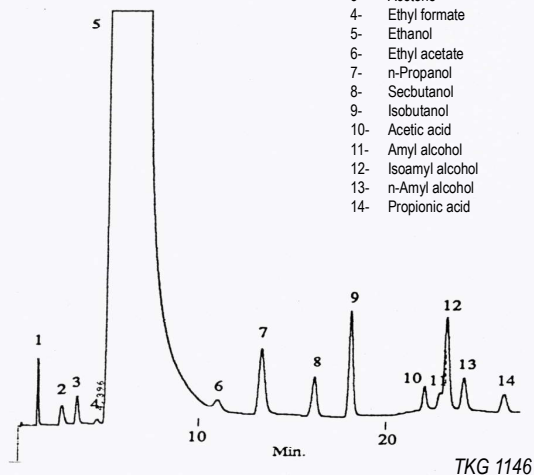
Tubing	External Diameter (OD)	Internal Diameter (ID)
Stainless Steel	1/4" and 1/8"	4mm, 3mm and 2mm
Sulfinert	1/4" and 1/8"	5.2mm and 2mm
	1/16"	0.75mm and 1mm
	0.79 mm	0.53 mm
Nickel, Teflon and Copper	1/8"	2 mm

Columns can be delivered pre-conditioned or conditioned and proved at an extra cost (please inquire).

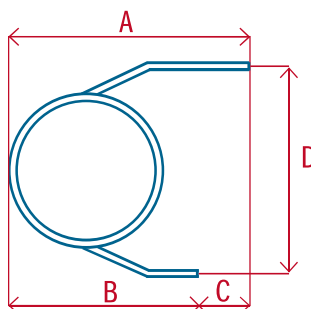
**To Order a Packed Column Specify the Following**

## PACKED COLUMNS

Column: 5% Carbowax 20M CarboBlack B/AW, 80/120 mesh  
 Dimensions: 2m x 1/8" OD X 2mm ID, (Silcosteel)  
 Injection: 1 µl standard, 175°C  
 Carrier Gas: He, 15ml/min  
 Oven temperature: 60°C(6min) @ 10°C/min to 150°C(7min)  
 Detector: FID, 175°C



- | Peak Name           |  |
|---------------------|--|
| 1- Acetaldehyde     |  |
| 2- Methanol         |  |
| 3- Acetone          |  |
| 4- Ethyl formate    |  |
| 5- Ethanol          |  |
| 6- Ethyl acetate    |  |
| 7- n-Propanol       |  |
| 8- Secbutanol       |  |
| 9- Isobutanol       |  |
| 10- Acetic acid     |  |
| 11- Amyl alcohol    |  |
| 12- Isoamyl alcohol |  |
| 13- n-Amyl alcohol  |  |
| 14- Propionic acid  |  |



Physical Dimensions

- A: \_\_\_\_\_
- B: \_\_\_\_\_
- C: \_\_\_\_\_
- D: \_\_\_\_\_

Chromatograph manufacturer: \_\_\_\_\_

Model: \_\_\_\_\_  
 Tubing material: \_\_\_\_\_  
 Length: \_\_\_\_\_ O.D. \_\_\_\_\_ I.D. \_\_\_\_\_

Packing Description

Percentage of coating: \_\_\_\_\_ Phase: \_\_\_\_\_  
 Support: \_\_\_\_\_  
 Treatment (WAW,,WHP,,): \_\_\_\_\_ Mesh size: \_\_\_\_\_

Comments: \_\_\_\_\_



## Packed Columns

DESCRIPTION	T LIMITS (°C)	USP CODE
Alltech AT™-1000	50/250	G35
Apiezon® L	50/300	-
Apiezon® M	50/300	-
Bentone 34	0/180	-
N,N-bis-(2-Cyanoethyl)formamide (BCEF)	20/125	-
N,N-bis-(p-Methoxybenzylidene)-a,a'-bi-p-toluidine (BMBT)	150	-
Bis-(2-ethoxyethyl) Adipate (BEEA)	150	-
Bis-(2-methoxyethyl) Adipate (BMEA)	150	-
Carbowax® 400	20/100	G20
Carbowax® 540	40/175	G39
Carbowax® 600	20/125	-
Carbowax® 1000	40/150	G14
Carbowax® 1540	50/175	G39
Carbowax® 3350	60/200	G15
Carbowax® 6000	60/200	-
Carbowax® 20M	60/225	G16
Carbowax® 20M-TPA	60/250	G25
DC-200, 350cstk (Methyl)	20/250	-
DC-200, 500cstk (Methyl)	20/250	-
DC-550, (25%-Phehyl)	20/225	G28
Dexsil® 300GC	50/400	G33
Di-n-butyl Maleate	20/50	-
Di-n-decyl phthalate	10/175	-
Di(2-ethylhexyl)sebacate	0/125	G11
Diethyleneglycol Adipate	20/210	-
Diethyleneglycol Succinate	20/200	G4
Diglycerol	20/100	-
2,4-Dimethylsulfonate	0/50	-
Dinonyl Phthalate	20/150	-
Diisodecyl Phthalate	20/150	G24
Ethyleneglycol Adipate	100/210	G40
Ethyleneglycol Succinate	100/210	-
Fluorad FC-431	40/200	-
FFAP	50/250	G35
Halocarbon oil 14-25	150	-
Igepal® CO-630	30/200	-
Igepal® CO-880 (Nonoxynol)	100/200	G31
Igepal® CO-990	100/200	-
Kel-F® Oil No. 10	100	-
Neopentylglycol Succinate	50/230	G21
OV™-1 (Methyl gum)	100/350	G2
OV™-17 (50% phenyl)	20/350	G3
OV™-17-Vinyl (50% phenyl)	300+	-

DESCRIPTION	T LIMITS (°C)	USP CODE
OV™-25 (75% phenyl)	300	G17
OV™-101 (Methyl fluid)	20/350	G1
OV™-210 (50% Trifluoropropyl)	20/275+	G6
OV™-225 (25% phenyl, 25% cyanopropyl methyl)	20/250+	G19
OV™-275 (Dicyanoallyl)	250+	-
OV™-1701	0/250	-
b,b-Oxydipropionitrile	0/75	-
Phenyldiethanolamine Succinate	0/230	G12
Polyethylene glycol adipate	0/225	G23
Polyethyleneimine	0/175	-
Polyphenyl ether (5 rings) OS-124	0/200	-
Polyphenyl ether (6 rings) OS-138	0/225	-
Polypropylene glycol	0/150	-
Polypropyleneimine	0/200	-
QF-1 (50% Trifluoropropyl)	20/250	-
SE-30 (Methyl gum)	75/300	-
SE-30 (GC grade)	75/300	G2
SE-52 (5% Phenyl)	50/300	G27
SE-54 (5% Phenyl, 1% Vinyl)	50/300	G36
Sebaconitrile	150	-
Silar® 5CP (50% Cyanopropyl Phenyl Silicone)	50/250	G7
Silar® 9CP (90% Cyanopropyl Phenyl Silicone)	50/250	G8
Silar® 10C (100% Cyanopropyl Silicone)	50/250	G5
Sorbitol	100/150	G13
SP-1200	25/200	-
SP-2100 (Methyl silicone)	0/350	G1
SP-2300 (Polycyanopropylphenylsiloxane)	20/275	G7
SP-2330 (Poly(80%-biscyanopropyl-20%-cyanopropylphenyl)siloxane)	25/275	G8
SP-2340 (Polybiscyanopropylsiloxane)	25/275	G5
Squalene	20/150	-
SUPEROX® 4 (4.000.000 MW)	300	-
SUPEROX® 20M (20.000 MW)	60/250	-
Tetracyanoethylated Pentaerythritol (TCEPE)	30/150	-
Tetrahydroxyethylene Diamine (THEED)	125	-
1,2,3-Tris-(2-cyanoethoxy)propane (TCEP)	20/180	-
Triton® X-100	0/200	-
Triton® X-305 (Octylphenoxy Polyethoxy-ethanol)	20/250	-
UC W-98 (UC-W982)	80/300+	G9
UCON LB-1800-X (Polyalkylene Glycol)	200	G18
Versamid® 900	275	-

For other stationary phases please inquire