

BP21 (FFAP) Bonded Phase for The Analysis of Acidic Compounds

- Bonded FFAP Phase
- Ideal for Organic Acids, Free Fatty Acids and Alcohols
- Superior Thermal and Chemical Stability
- Quality Tested for Acidic Compound Analysis

INTRODUCTION

BP21, SGE's bonded FFAP phase has been developed specifically for capillary gas chromatography analysis of underivatized short chain carboxylic acids, free fatty acids and alcohols.

BP21 also demonstrates excellent thermal and chemical stability, and low bleed characteristics.

COLUMN PERFORMANCE TESTING OF BP21 COLUMNS

BP21 capillary columns are tested for polar/acidic compound applications. Compounds such as free fatty acids and straight chain/aromatic alcohols probe the BP21 column for assurance of reproducibility and performance.

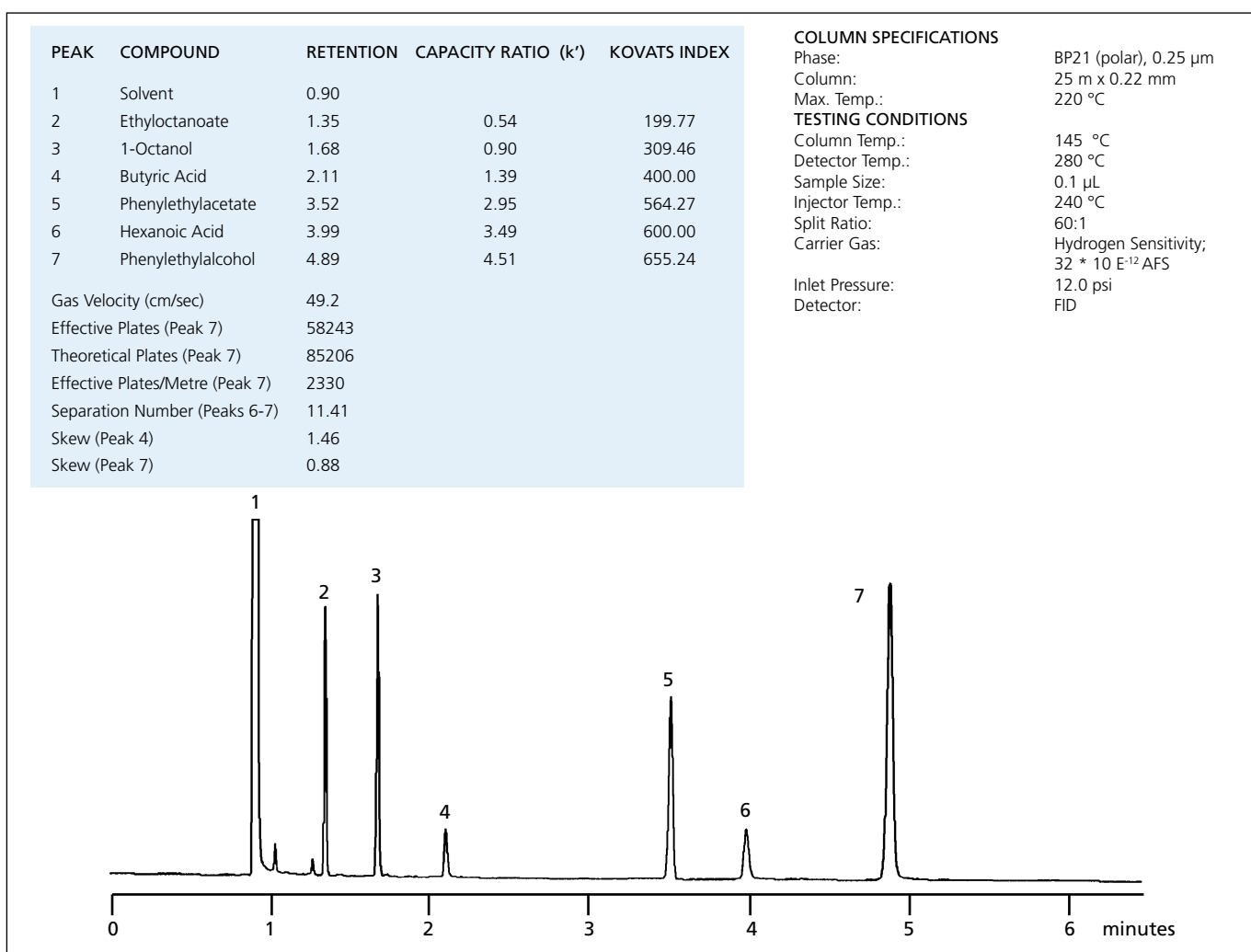


Figure 1. Column Performance Report; Remarks: Conditioning 200 $^{\circ}$ C

PRODUCT DATA

ANALYSIS OF ORGANIC ACIDS IN WATER

The superior thermal and chemical stability of BP21 phase is illustrated in figure 2. Excellent peak symmetry is obtained for a range of free organic acids (5 ng) and hydroxyl acid, Lactic acid (25 ng), even after 20 consecutive aqueous injections.

The chromatography obtained on the BP21 column compared highly with that obtained in the publication (D.V. McCalley, Journal of HRCC Vol 12, July 1989). Superior peak shape particularly the Lactic acid, was obtained on the SGE column even at 1/5 the concentration.

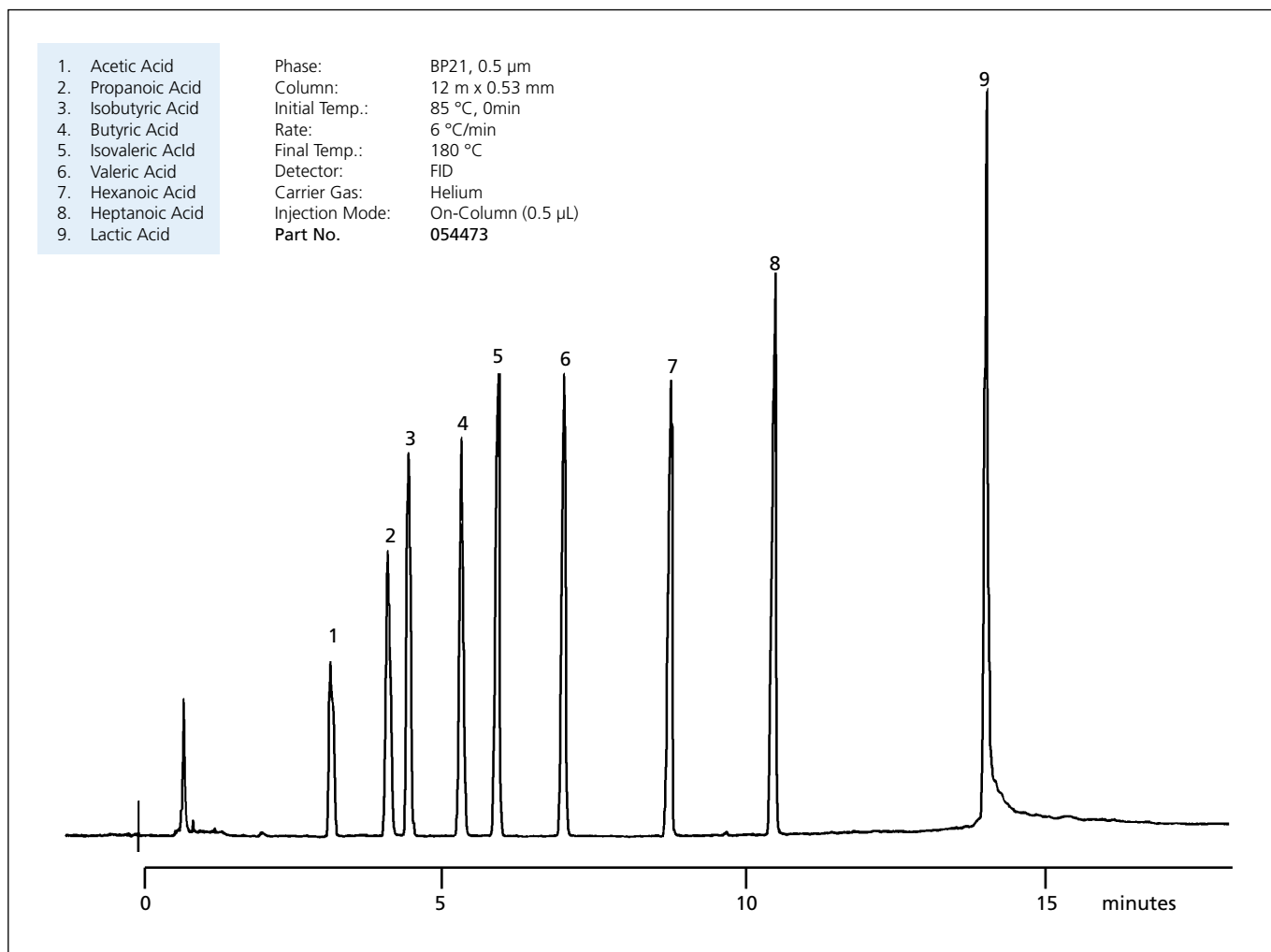


Figure 2. C₂-C₇ Acids (5 ng) + Lactic Acid (25 ng) in (0.03 M) Oxalic Acid after 30 injections

FREE FATTY ACID ANALYSIS

The analysis of C₂ to C₁₈ free fatty acids using a BP21 column is shown in figure 3. The standard method of analysis for fatty acid compounds is pre-derivatization prior to chromatography. BP21 enables the analysis of free

fatty acids up to C₂₀ without derivatization. Features of the BP21 phase include short run times, excellent peak symmetry, compatibility with aqueous solutions and the low bleed at elevated temperatures.

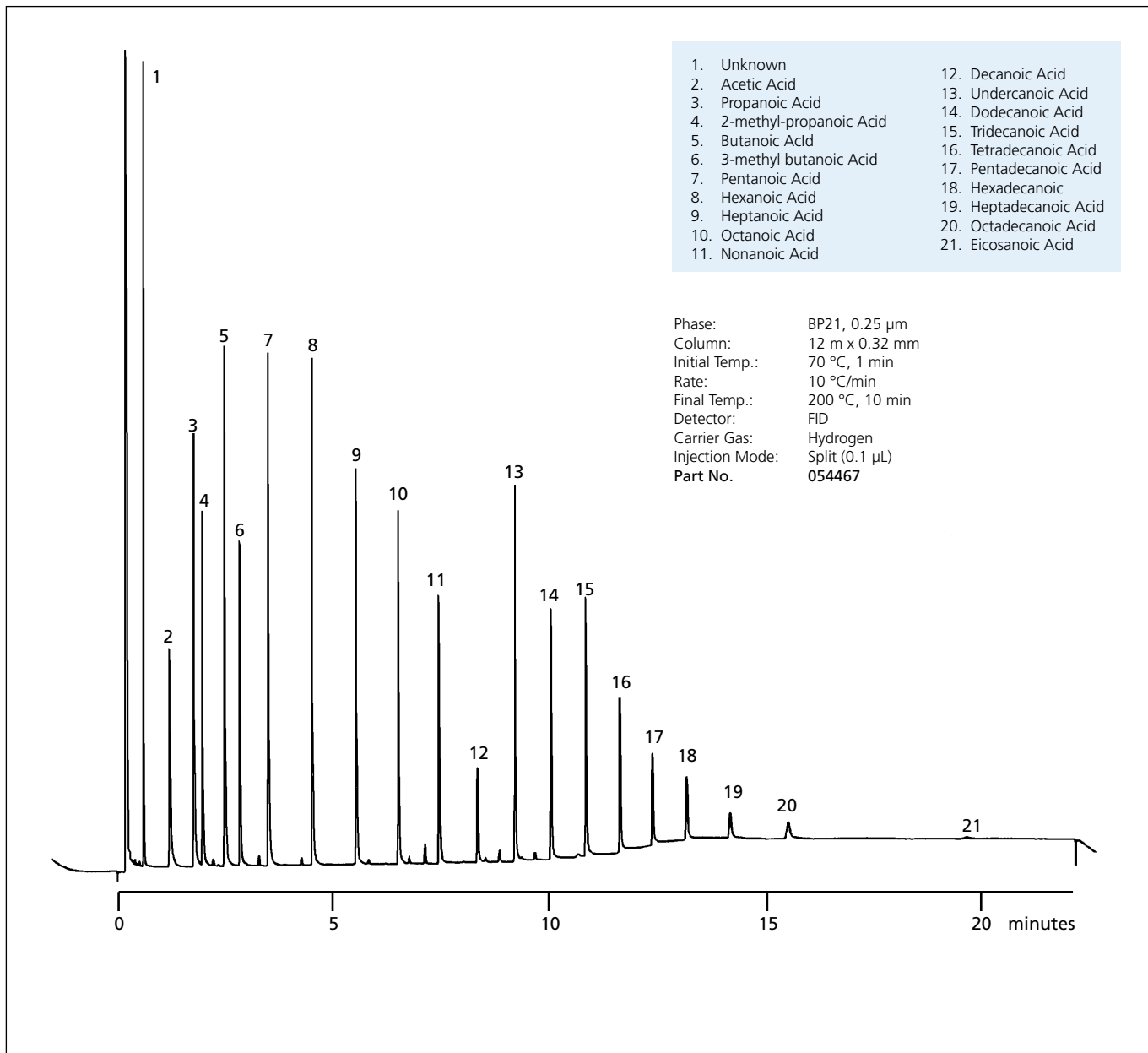
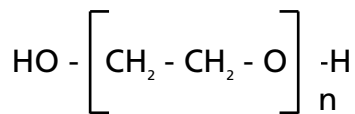


Figure 3. Free Fatty Acids in Methanol

PRODUCT DATA

SPECIFICATIONS OF BP21 PHASE

Bonded Polyethylene Glycol



Max. Operating Temperature: 250 °C

Min. Operating Temperature: 35 °C

BP21 APPLICATION AREAS

1. Environmental analysis of acidic compounds in water.
2. Quality control of fatty acid, acidic and alcohol compounds.
3. Analysis of effluent in water treatment plants.
4. Monitoring of soluble acidic compounds.

ORDERING INFORMATION - BP21 (FFAP) - Polyethylene Glycol (TPA Treated)

ID (mm)	Film Thickness (µm)	12 metre Part No.	15 metre Part No.	25 metre Part No.	30 metre Part No.	50 metre Part No.	60 metre Part No.
0.22	0.25	-	-	054462	-	054463	-
0.25	0.25	-	054464	-	054465	-	054466
0.32	0.25	054467	054470	054468	054471	054469	054472
0.53	0.5	054473	054476	054474	054477	-	-
0.53	1	-	-	-	054478	-	-

For more information contact our technical customer support team on: techsupport@sge.com

AUSTRALIA & PACIFIC REGION

SGE Analytical Science Pty Ltd
Toll Free: 1800 800 167
Tel: +61 (0) 3 9837 4200
Fax: +61 (0) 3 9874 5672
Email: support@sge.com

CHINA

SGE Shanghai Representative Office
Tel: +86 21 6407 9382
Fax: +86 21 6407 9386
Email: china@sge.com

MIDDLE EAST

SGE Gulf
Tel: +971 6 557 3341
Fax: +971 6 557 3541
Email: gulfsupport@sge.com

EUROPE

SGE Europe Ltd
European Head Office
Toll Free: 00800 2790 8999
Toll Free Fax: 00800 2626 2609
Tel: +44 1908 568 844
Fax: +44 1908 566 790
Tel France: +33 1 69 29 80 90
Fax France: +33 1 69 29 09 25
Tel Germany: +49 (0) 6155 / 60746 0
Fax Germany: +49 (0) 6155 / 60746 50
Email: europe@sge.com

INDIA

SGE Laboratory Accessories Pvt Ltd
Tel: +91 22 24715896
Fax: +91 22 24716592
Email: sgeindia@vsnl.com

UNITED STATES OF AMERICA

SGE Incorporated
Toll Free: (800) 945 6154
Tel: +1 512 837 7190
Fax: +1 512 836 9159
Email: usa@sge.com

JAPAN

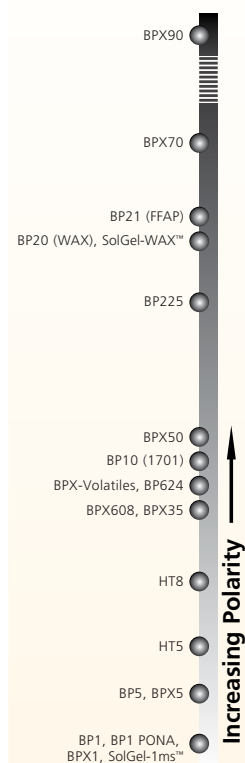
SGE Japan Inc
Tel: +81 45 222 2885
Fax: +81 45 222 2887
Email: japan@sge.com



BP20 (WAX)

ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.1	0.1	10	20 to 260/280	054405
0.22	0.25	12	20 to 260/280	054420
0.22	0.25	25	20 to 260/280	054421
0.22	0.25	30	20 to 260/280	054424
0.22	0.25	50	20 to 260/280	054422
0.22	0.25	60	20 to 260/280	054425
0.25	0.25	15	20 to 260/280	054426
0.25	0.25	30	20 to 260/280	054427
0.25	0.5	30	20 to 260/280	054415
0.25	1	30	30 to 240/260	054439
0.25	0.25	60	20 to 260/280	054428
0.25	0.5	60	20 to 260/280	054458
0.32	0.25	15	20 to 260/280	054432
0.32	0.25	25	20 to 260/280	054430
0.32	0.5	25	20 to 260/280	054436
0.32	1	25	20 to 240/260	054442
0.32	0.25	30	20 to 260/280	054433
0.32	0.5	30	20 to 260/280	054438
0.32	1	30	30 to 240/260	054444
0.32	0.25	50	20 to 260/280	054431
0.32	0.5	50	20 to 260/280	054437
0.32	1	50	20 to 240/260	054443
0.32	0.25	60	20 to 260/280	054434
0.32	0.5	60	20 to 260/280	054457
0.32	1	60	20 to 240/260	054445
0.53	1	12	20 to 240/260	054447
0.53	2	12	20 to 240/260	054455
0.53	0.5	15	20 to 260/280	054961
0.53	1	15	20 to 240/260	054450
0.53	1	25	20 to 240/260	054448
0.53	2	25	30 to 240/260	054456
0.53	0.5	30	20 to 260/280	054440
0.53	1	30	20 to 240/260	054451
0.53	0.5	60	20 to 260/280	054963
0.53	1	60	20 to 240/260	0544515




GC Columns and Applications

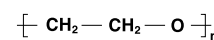


GC Capillary Columns | Polyethylene Glycol (PEG) – TPA Treated

BP21 (FFAP)

- Nitroterephthalic acid modified PEG.
- Polar phase.
- Ideal for low molecular weight acids.
- 240/250 °C upper temperature limit.
- Able to be solvent rinsed (water or methanol is NOT recommended for rinsing).
- Bonded and cross-linked.

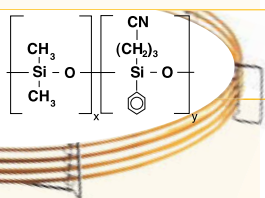
Especially Suitable for these Industries:	  
Application Areas:	Volatile free acids, fatty acid methyl esters, alcohols, aldehydes, acrylates, ketones. Applications AC102, SOL04.
Suitable Replacement for:	DB-FFAP, HP-FFAP, Stabilwax-DA, CPWax-58CB.



BP21 (FFAP)




ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.22	0.25	25	35 to 240/250	054462
0.22	0.25	50	35 to 240/250	054463
0.25	0.25	15	35 to 240/250	054464
0.25	0.25	30	35 to 240/250	054465
0.25	0.25	60	35 to 240/250	054466
0.32	0.25	12	35 to 240/250	054467
0.32	0.25	15	35 to 240/250	054470
0.32	0.25	25	35 to 240/250	054468
0.32	0.25	30	35 to 240/250	054471
0.32	0.25	50	35 to 240/250	054469
0.32	0.25	60	35 to 240/250	054472
0.32	0.5	50	35 to 240/250	054480
0.53	0.5	12	35 to 240/250	054473
0.53	0.5	15	35 to 240/250	054476
0.53	0.5	25	35 to 240/250	054474
0.53	0.5	30	35 to 240/250	054477
0.53	1	30	35 to 240/250	054478

GC Columns | 14% Cyanopropylphenyl Polysiloxane



BP10 (1701)

- Used for organochlorine pesticides analysis.
- Highly inert.
- Low bleed.
- 260/300 °C upper temperature limit - dependent on film thickness.
- Bonded and cross-linked.
- Able to be solvent rinsed.

Especially Suitable for these Industries:	  
Application Areas:	Environmental analyses (EPA methods 608 and 8081), pesticides/herbicides, drugs of abuse, pharmaceuticals.
Suitable Replacement for:	DB-1701, Rtx-1701, SPB-7, HP-1701, CP-Sil 19CB, 007-1701, PE-1701, SP-1701.

ID (mm)	Film Thickness (µm)	Length (m)	Temperature Limits (°C)	Part No.
0.22	0.25	12	-20 to 280/300	054252
0.22	0.25	25	-20 to 280/300	054253
0.22	0.25	50	-20 to 280/300	054254
0.25	0.25	15	-20 to 280/300	054255
0.25	0.25	30	-20 to 280/300	054256
0.25	1	30	-20 to 260/280	054271
0.25	0.25	60	-20 to 280/300	054257
0.32	0.25	15	-20 to 280/300	054258
0.32	0.5	15	-20 to 280/300	054264
0.32	0.25	25	-20 to 280/300	054262
0.32	0.5	25	-20 to 280/300	054268
0.32	0.25	30	-20 to 280/300	054259
0.32	0.5	30	-20 to 280/300	054265
0.32	1	30	-20 to 260/280	054270
0.32	0.5	50	-20 to 280/300	054269
0.32	0.25	60	-20 to 280/300	054260
0.32	0.5	60	-20 to 280/300	054266
0.53	1	15	-20 to 260/280	054282
0.53	1	25	-20 to 260/280	054280
0.53	1	30	-20 to 260/280	054283

Expert Tip :

Do not use plastic tubing in GC systems. Plastic tubing, when used for general plumbing, can absorb up to 20% moisture allowing external laboratory gases to permeate through the tubing. SGE recommends clean stainless steel tubing to be used throughout the GC system.

