Light Hydrocarbon Analysis

Special Columns for Unsaturated Light Hydrocarbons

- Faster separations of C1 to C4 hydrocarbons.
- Res-Sil® packing replaces Porasil materials.

n-Octane on Res-Sil® C Packed Column

This packed column has unique selectivity for resolving unsaturated light hydrocarbons (Figure 1).

OPN on Res-Sil® C Packed Column

This column separates the light hydrocarbons, and baseline resolves *cis*-2-butene from 1,3-butadiene (Figure 2).

2abc Refinery Gas Column Set

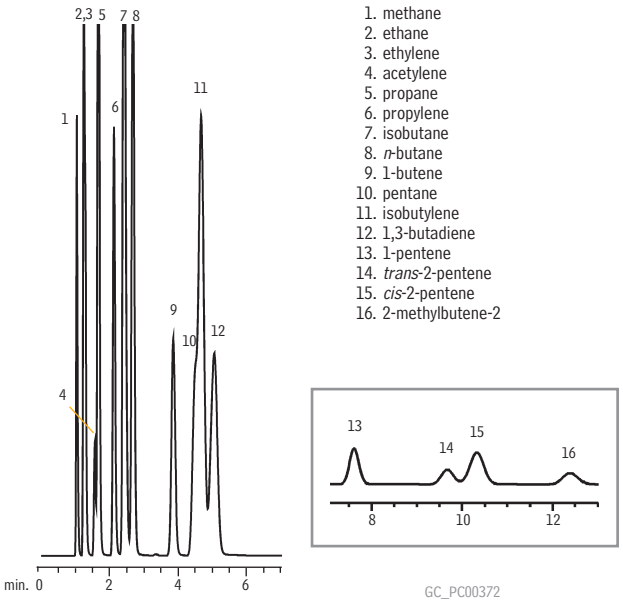
This 3-column set is finely tuned to resolve light hydrocarbons. When used in the proper valving system, it will elute C5+ hydrocarbons ahead of C1 through C4 hydrocarbons. (Figure 3)

Description	cat.#*	price
n-Octane on Res-Sil C, 80/100 (20', 2.0mm ID, 1/8" Silcosmooth OD)	80436-	
OPN on Res-Sil C, 80/100 (12', 2.0mm ID, 1/8" Silcosmooth OD)	80437-	
2abc Refinery Gas Column Set (3 column set)**	88000-	

*Please add column instrument configuration suffix number to cat.# when ordering. See page 143.

**This column set is for a valving system; therefore, packing material is filled to ends of columns.

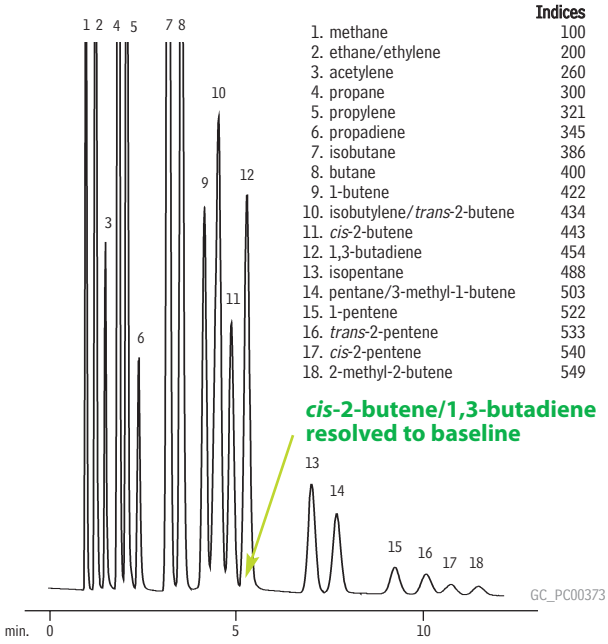
Figure 1 *n*-Octane on Res-Sil® C packing has unique selectivity for unsaturated light hydrocarbons.



1. methane
2. ethane
3. ethylene
4. acetylene
5. propane
6. propylene
7. isobutane
8. *n*-butane
9. 1-butene
10. pentane
11. isobutylene
12. 1,3-butadiene
13. 1-pentene
14. *trans*-2-pentene
15. *cis*-2-pentene
16. 2-methylbutene-2

n-octane 80/100 Res-Sil® C
20', 1/8" OD x 2mm ID, SilcoSmooth® tubing (cat. # 80436)
Oven temp.: 60°C
Inj. temp.: 150°C
Det. temp: 150°C FID
Flow rate: 30mL/min. He
Sample: refinery gas C1-C5
Sample size: 20µL

Figure 2 OPN on Res-Sil® C packing has unique selectivity for *cis*-2-butene and 1,3-butadiene.

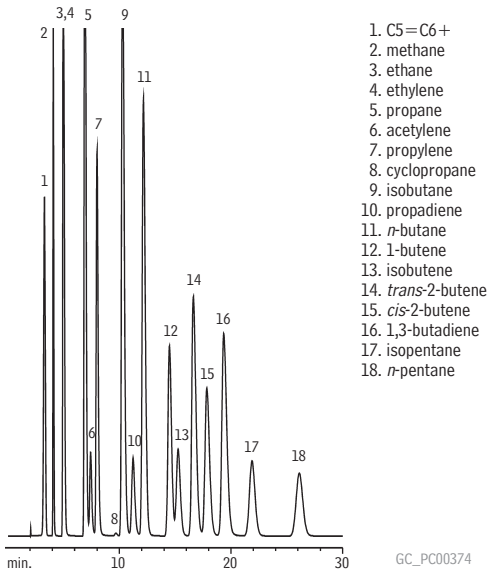


	Retention Indices
1. methane	100
2. ethane/ethylene	200
3. acetylene	260
4. propane	300
5. propylene	321
6. propadiene	345
7. isobutane	386
8. butane	400
9. 1-butene	422
10. isobutylene/*trans*-2-butene	434
11. *cis*-2-butene	443
12. 1,3-butadiene	454
13. isopentane	488
14. pentane/3-methyl-1-butene	503
15. 1-pentene	522
16. *trans*-2-pentene	533
17. *cis*-2-pentene	540
18. 2-methyl-2-butene	549

OPN on Res-Sil® C, 80/100 mesh, 12' x 2mm ID x 1/8" OD in SilcoSmooth® tubing (cat.# 80437). 20µL on-column injection of refinery gas.
Concentration: 0.1-6 absolute mole %
Oven temp.: 50°C
Inj. & det. temp.: 200°C
Carrier gas: helium
Flow rate: 30mL/min

Reference standard courtesy of AC Analytical Controls, Bensalem, PA.

Figure 3 Refinery gas calibration standard on a Restek refinery gas packed column set.



1. C5=C6+
2. methane
3. ethane
4. ethylene
5. propane
6. acetylene
7. propylene
8. cyclopropane
9. isobutane
10. propadiene
11. *n*-butane
12. 1-butene
13. isobutene
14. *trans*-2-butene
15. *cis*-2-butene
16. 1,3-butadiene
17. isopentane
18. *n*-pentane

2abc Refinery Gas Column Set (cat.# 88000-875) (3 column set)
Oven temp.: 60°C
Inj. temp.: 150°C
Det. temp: 150°C FID
Flow rate: 30mL/min., helium
Sample: refinery gas
Sample size: 1cc

for **more** info

See **page 135** for more information on Res-Sil® packing materials.