

Analysis of Sugar Alcohols by Semi-micro HPLC

Introduction

Semi-micro HPLC analysis offers a significant advantage compared with conventional separations in reducing separation time and cutting cost by reducing the consumption of mobile phase. However, HPLC systems designed for conventional separations often do not provide good enough peak shape or separation due to peak diffusion in the non-optimized flow path. When using a semi-micro column an optimized RHPLC system is recommended. This analysis report compares the measurement of sugar alcohols using a conventional refractive index detector with a detector optimized for semi-micro HPLC.

Keyword: HPLC, Sugar Alcohols, Semi-micro, Amide column, RI

Experimental

[Equipment]		[Conditions]	
Pump:	PU-4185	Column:	Inertsil Amide (2.1 mmI.D. x 250 mmL, 3 μm)
Pump option:	Degasser unit	Eluent :	Water/Acetonitrile (30/70)
Autosampler:	AS-4150	Flow rate:	0.2 mL/min
Column oven:	CO-4060	Column temp.:	30°C
Detector:	RI-4035	Injection volume:	1 μL
		Standard Sample:	Sugar alcohols mixture (5 mg/mL each)

Results

Fig. 1 shows the chromatograms of sugar alcohols measured using a refractive index detector for conventional analysis (RI-4030) or for semi-micro analysis (RI-4035). Using the RI-4035 for semi-micro analysis can obviously provide improved peak shape and resolution.

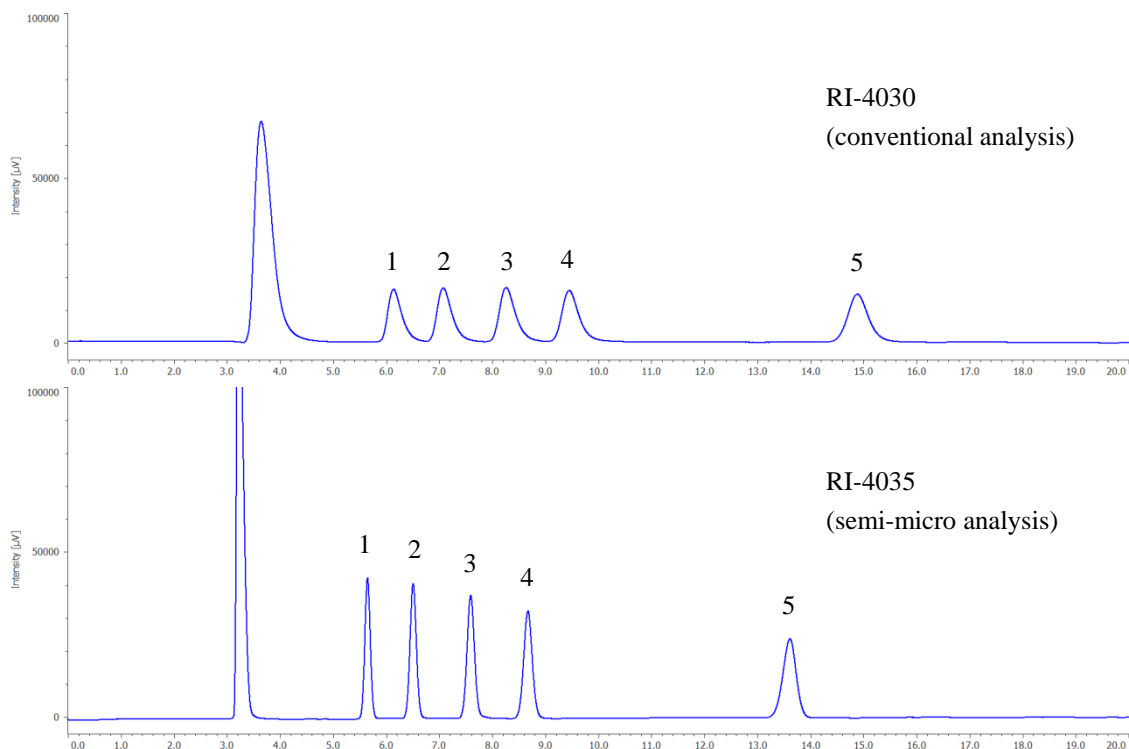


Fig. 1 Chromatogram of Sugar alcohol samples
 1: Glycerine, 2: Erythritol, 3: Xylitol, 4: Solbitol, 5: Inositol



Application Note

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P/N	Description
7003-J014A	PU-4185 RHPLC Semi-micro Pump (Base Unit)
7006-H003A	DG-4000-04 4-channel Degasser Unit, for Analytical
7064-J002A	AS-4150 RHPLC Autosampler
7021-J002A	CO-4060 Column Oven
7031-J002A	RI-4035 Refractive Index Detector, for Semi-micro LC
7058-J011A	BS-4000-1 Bottle stand
6688-H564A	LC-Net CG cable (3x)
7059-J012A	ChromNAV Ver.2 Chromatography Data System
7001-H403A	RHPLC/UHPLC Start Up Kit for LC-4000
7001-H405A	Maintenance tool kit
	Inertsil Amide (2.1 mmI.D. x 250 mmL, 3 μ m)