

COSMOSIL Special Columns

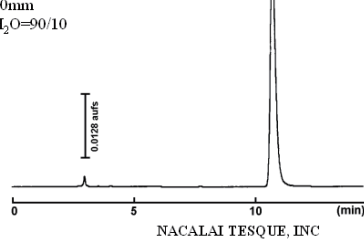
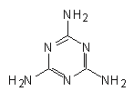
COSMOSIL HILIC packed column

Melamine analysis

Melamine analysis by HPLC and LC/MS/MS using COSMOSIL HILIC.

COSMOSIL Chromatogram Index

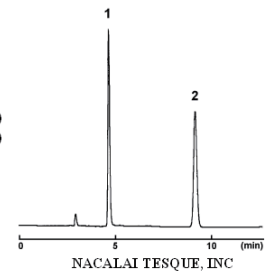
Sample: Melamine
CAS No.: [108-78-1]
Molecular formula: $C_3H_3N_3$
Column: HILIC
Column size: 4.6mm I.D. x 250mm
Mobile phase: Acetonitrile/ $H_2O=90/10$
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV240 nm
Attenuation: 0.128 au/fs
Sample conc.: 1.0mg/ml
Injection volume: 1.0µl
Retention time: 10.79min
Capacity factor: 2.79



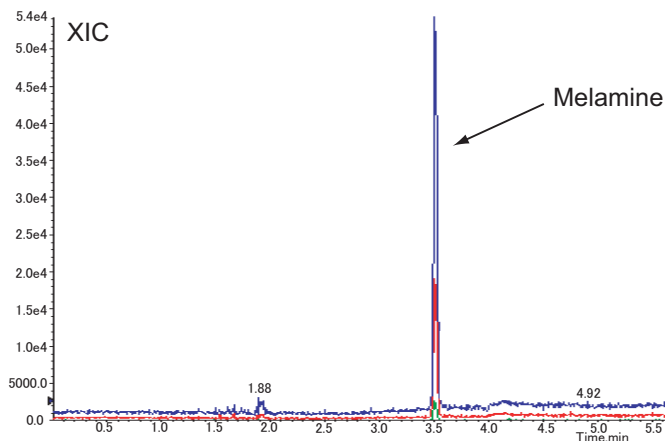
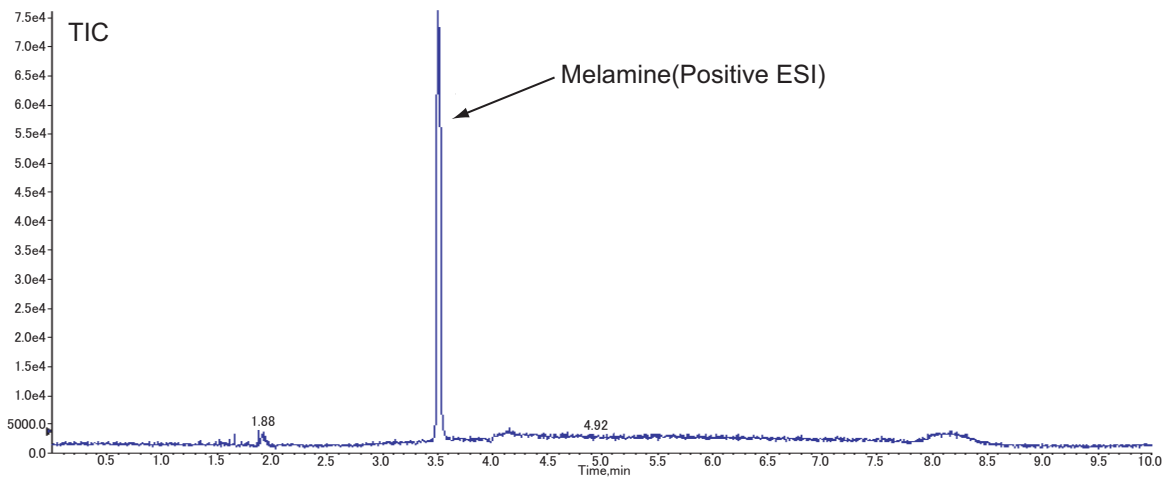
COSMOSIL Application Data

Column: HILIC
Column size: 4.6mm I.D. x 250mm
Mobile phase: Acetonitrile/ 10mmol/l Ammonium Acetate = 70/30
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV225nm

Sample: 1: Melamine (0.1 µg)
2: Cyanuric Acid (1.0 µg)



AP-1065



Column size	2.0 mm I.D. x 150 mm			
Mobile phase	A: acetonitrile + 10 mmol/l ammonium acetate B: water + 10 mmol/l ammonium acetate			
Gradient	time (min)	flow rate (µl/min)	%A	%B
	int	250	97	3
	5.0	250	20	80
	5.5	250	3	97
	5.6	250	97	3
	10.0	250	97	3

Temperature	40 °C	
Detection	MRM (ESI-POS)	
	Q1	Q3
	127	85
	127	68
	127	60

Sample volume Melamine (10 ppb/10 µl/inj)

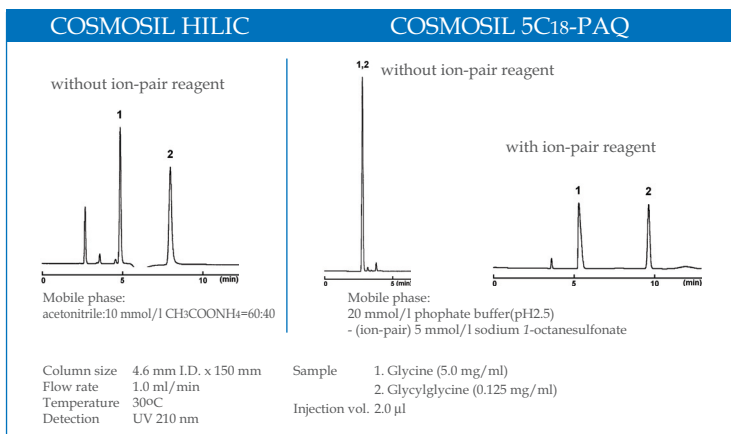
COSMOSIL HILIC

COSMOSIL HILIC is a new column for hydrophilic interaction chromatography with Triazole bonded silica packing material. The hydrophilic interaction chromatography is a variation of normal phase chromatography where a polar stationary phase is used with a mobile phase which contains a high concentration of organic solvent and a low concentration of aqueous eluent. The main retention mechanism is the partitioning of the polar analytes between the polar stationary and the non-polar mobile phase. As it is also called "aqueous normal phase", the elution order is similar to that of normal phase and the sample elution is in the order of increasing hydrophilicity. Without using ion-pair reagent COSMOSIL HILIC retains highly polar analytes that would not be retained in reversed phase chromatography. It also shows a weak anion-exchange mechanism with the positively charged stationary phase, thus acidic compound is strongly retained.

Features of COSMOSIL HILIC

- Retains highly polar compounds that would not be retained in C18 columns
- Ion-pair reagent is not required
- Anion-exchange results in strong retention for acidic compounds
- Enhanced sensitivity in LC/MS

Comparison with C18 columns

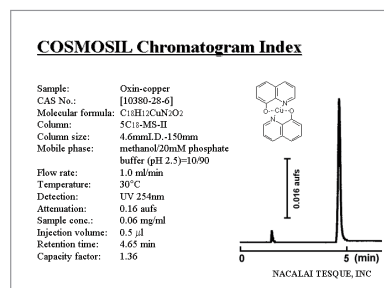
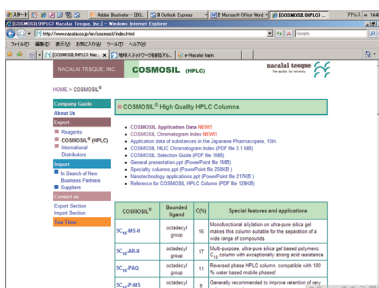


Material characteristics

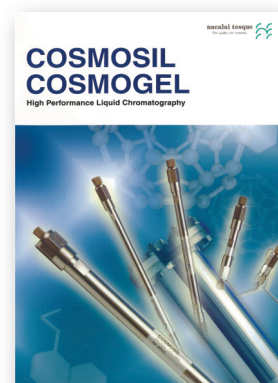
Packing material	COSMOSIL HILIC
Silica gel	high purity porous spherical silica
Average particle size	5 µm
Average pore size	approx. 120 Å
Specific surface area	approx. 300 m ² /g
Stationary phase	<p>triazole</p>
Main interaction	hydrophilic interaction
End capping treatment	near-perfect treatment

COSMOSIL Application data / Chromatogram index

COSMOSIL application data is now available on our website. The online version includes more than 1,000 application data using COSMOSIL columns. The online data is searchable by name of sample and column type. And COSMOSIL Chromatogram Index is also available. This index includes more than 5,700 single compound elution profiles. If you have any questions regarding the application data or separations of compounds not listed here, please feel free to e-mail us at info.intl@nacalai.co.jp.



— Now Available! —



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