



# AMBERCHROM® CGI 61

Chromatographic Grade Resin

## For Chromatographic Purification

### PRODUCT DATA SHEET

AMBERCHROM chromatographic media are macroporous, polymeric resins useful for adsorption and reversed phase liquid chromatography. They are designed for laboratory and process scale purifications of proteins, peptides, nucleic acids, antibiotics, and small molecular weight pharmaceuticals

AMBERCHROM CGI61 chromatographic grade resin is an insoluble polystyrene divinylbenzene polymer manufactured for high value chromatographic applications. Its high surface area, unique pore size and pore volume distribution make it ideally suited for separation of peptides. AMBERCHROM CGI61 has high capacity for many pharmaceutical compounds and has been commercially proven for many years. It is an excellent technical and economical alternative to RPC silica, and can be used in high resolution, low pressure chromatography.

AMBERCHROM CGI61 is suitable for use in many pharmaceutical applications in the front end capture, purification, and desalting modes of operation depending on the particle size selected.

AMBERCHROM CGI61 is available in three different particle size ranges (35, 75, and 120 microns), and is supplied as a slurry in 20 % ethanol.

AMBERCHROM CGI61 is ideally suited for operation within the entire pH range, and can be easily cleaned in place (CIP) with most organic solvents and dilute acids and bases.

### REGULATORY STATUS

A Material Regulatory Support (MRS) package is developed for AMBERCHROM CGI61 resin users requiring assistance in supporting use of the resin in regulated applications. It is developed under CDA with users of this product and tailored to the customer's process parameters.

This material is manufactured under strict controls, and plant audits by potential customers are welcomed.

### CLEAN IN PLACE

Unlike RPC silica, AMBERCHROM CGI61, due to its polymeric nature and lack of bonded phase, can be cleaned in place (CIP) with most organic solvents and low concentrations of acids and bases. As the graph below demonstrates, there is no loss in capacity for Cephalosporin C after continuous exposure to 0.5 M NaOH for >180 days at ambient temperature and >100 days 60° C.

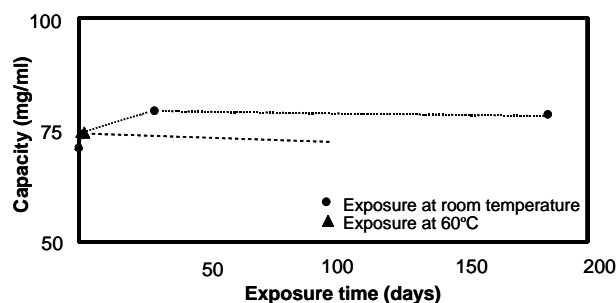


Figure 1: Ceph C Adsorption Batch Capacity

In addition to the excellent chemical resistance of AMBERCHROM CGI61, it also exhibits low swelling in common solvents as shown below:

Solvent	Swelling
Water	100
Methanol	108
Ethanol	106
Isopropanol	112
Acetonitrile	112
Acetone	114
Toluene	104
Dry	90

## APPLICATIONS

### Separation of Penicillin Derivatives

Amberchrom CG161 is utilized for the separation of penicillin derivatives 6APA; Penicillin G; Penicillin V. The effective separation was accomplished under the conditions shown below.

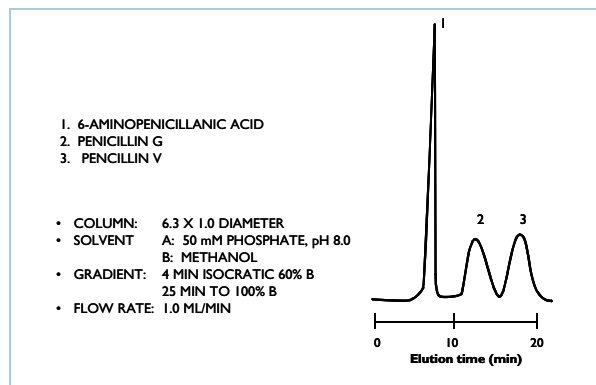


Figure 2: Penicillin Derivatives on Amberchrom CG161

### Kinetic Exclusion Chromatography

This application utilizes the size exclusion phenomenon whereby the target molecule is adsorbed and the large size impurities are excluded. During elution, the target molecule may be recovered.

Further purification can be performed if desired.

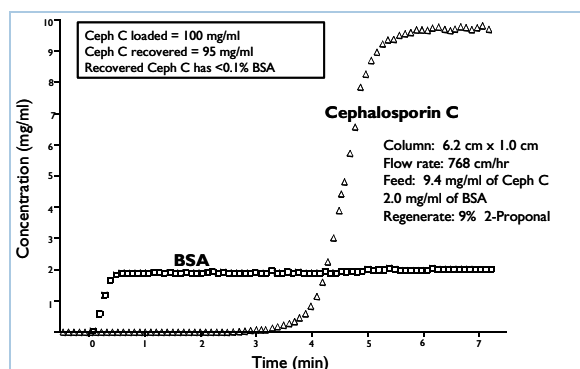


Figure 3: Kinetic Exclusion Chromatography using Amberchrom CG161

### Separation of Nucleosides

The graph below demonstrates an excellent separation of 5 nucleosides with Amberchrom CG161.

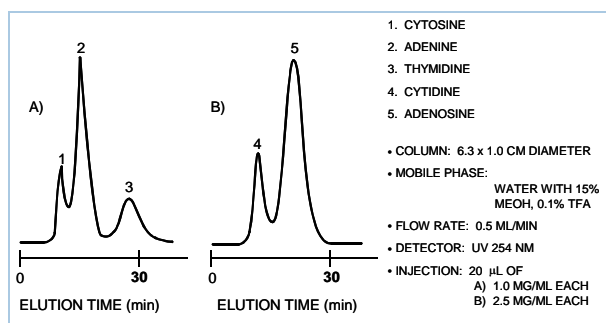


Figure 4: Nucleosides Separation on Amberchrom CG161

### IR SPECTRUM OF AMBERCHROM CG161

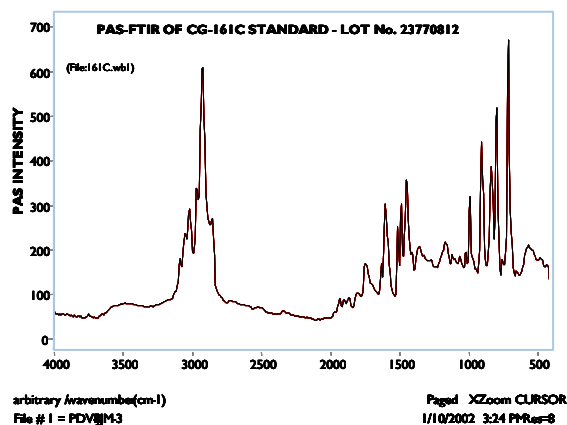


Figure 5: AMBERCHROM CG161 IR Spectrum

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## TYPICAL PHYSICAL PROPERTIES

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Matrix _____	Polystyrene/Divinylbenzene macroreticular adsorbent
Functional groups _____	None
Physical form _____	Opaque white beads
Shipping solvent _____	20% ethanol
Surface area _____	900 m <sup>2</sup> /g
Pore size <sup>[1]</sup> _____	150 Å
Mean diameter _____	S grade : 35 microns M grade : 75 microns C grade : 120 microns
Uniformity coefficient _____	1.7
Chemical resistance _____	Insoluble in dilute solutions of acids or bases and common solvents : IPA, ACN, MeOH.

<sup>[1]</sup> Test methods are available on request.

## SELECTED REFERENCES

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## ORDERING INFORMATION

Part Number	Description	Particle Size	Packaging
I0235555	AMBERCHROM CG161S	35 µm	25 mL
I0235556	AMBERCHROM CG161S	35 µm	100 mL
I0235557	AMBERCHROM CG161S	35 µm	1000 mL
I0097833	AMBERCHROM CG161S	35 µm	5 L
I0097832	AMBERCHROM CG161S	35 µm	50 L
I0235558	AMBERCHROM CG161M	75 µm	25 mL
I0235559	AMBERCHROM CG161M	75 µm	100 mL
I0235560	AMBERCHROM CG161M	75 µm	1000 mL
I0097837	AMBERCHROM CG161M	75 µm	5 L
I0097836	AMBERCHROM CG161M	75 µm	50 L
I0235561	AMBERCHROM CG161C	120 µm	25 mL
I0235562	AMBERCHROM CG161C	120 µm	100 mL
I0235563	AMBERCHROM CG161C	120 µm	1000 mL
I0097840	AMBERCHROM CG161C	120 µm	5 L
I0051174	AMBERCHROM CG161C	120 µm	50 L

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WEB SITE: <http://www.amberchrom.com>



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