

Euroline

▶ Eurokat

organic solvent
free operation



Eurokat – valuable for food analysis

Eurokat high performance polymer phases were especially developed for the separation of organic acids, carbohydrates, alcohols and even complex mixtures of these compounds.

Eurokat is a sulfonated cross-linked styrenedivynylbenzene copolymer available in several ionic forms (H, Ca, Pb and Ag). This particular cation exchanger is characterized by an outstanding density of functional groups, making it the ideal choice for your ion exclusion, size exclusion and ligand exchange chromatography.

Eurokat columns **require no organic solvents** and thus are environmentally friendly.

Particle sizes:	10 µm, 20 µm
Cross linkage:	about 8% (H-form) / about 6% (Ca, Pb, Ag-form)
Max. pressure:	up to 100 bar
Max. temperature:	up to 90 °C

Application areas

Four different ionic species are available. Eurokat H is especially designed for the analysis of organic acids and even complex mixtures of acids, sugars and alcohols as well as sugar alcohols. Eurokat Ca and Eurokat Pb are the phases of choice for analysis of smaller carbohydrates (DP < 4), Eurokat Ag is applicable for the separation of sugar oligomers. Eurokat can also be used for the determination of biochemically important molecules such as sugars, artificial sweeteners or acidic metabolic and degradation products. Other application areas include analysis of:

- carbohydrates and acids in fruit beverages and soft drinks
- sugar substitutes
- food preservatives
- dairy products
- intermediate acids of the Krebs cycle
- urine (uric acid, hippuric acid)
- monitoring of fermentation processes

Stability

Eurokat polymer columns are extremely stable over the whole pH range. This is one striking advantage compared with silica-based phases which have a limited lifetime at pH extremes, especially in the higher pH range. Most importantly, Eurokat phases show extraordinary column lifetime stability and are not affected by aqueous solvents.



Choice of eluents

Outstanding separation results are achieved isocratically with fresh double-distilled water for Pb or Ca, or Ag type Eurokat columns, while Eurokat H columns perform best when using inorganic acids. Such aqueous eluents produce no harmful waste as with organic solvents such as acetonitrile which necessitate expensive disposal.

Choice of chromatographic conditions

The Eurokat stationary phase is designed to be applicable to a wide range of diverse chromatographic conditions. All Eurokat columns can be used at temperatures up to 90 °C under diverse pH conditions (e.g. using 0.001–0.1 N H₂SO₄). For example, the best separation of sugars can be achieved using an acidic aqueous mobile phase at a temperature between 60 to 90 °C. To extend separation performance, it is possible to connect up to three columns of Eurokat in series.

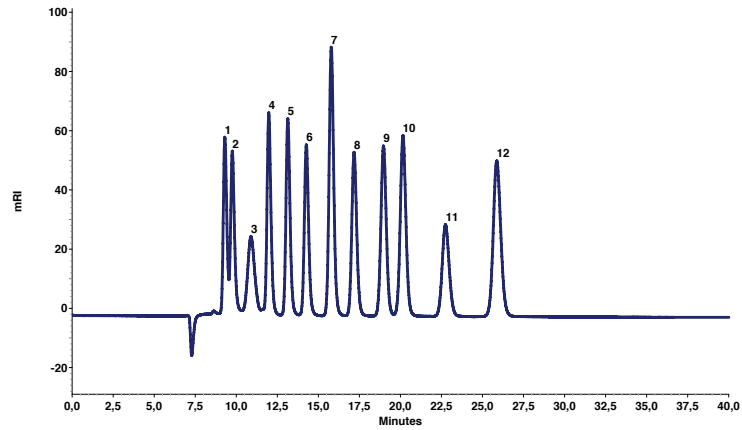
KNAUER column hardware

We design and manufacture HPLC column hardware under strict quality control. A specially treated inner surface ensures consistent column packing and high column stability. Eurokat columns are available in lengths of 30, 120, and 300 mm. The 30 mm version is recommended as a guard column.



Applications

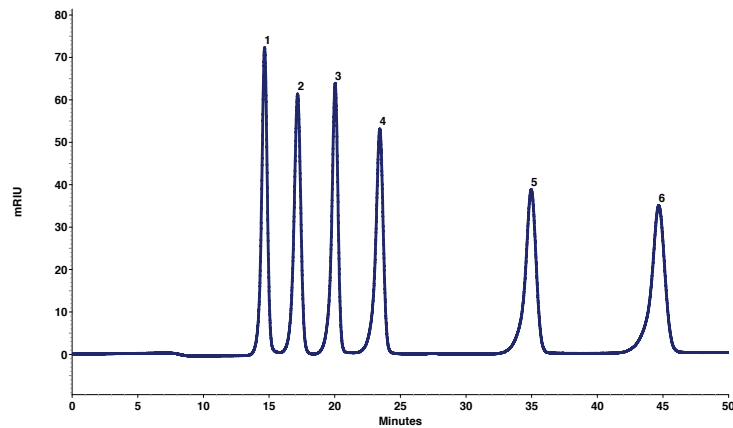
Separation of a mixture of organic acids, alcohols and sugars.



Eurokat H (300 x 8 mm)

Eluent: 0.01N H₂SO₄, Temp.: 75 °C, Flow: 0.5 ml/min, Detection: RI

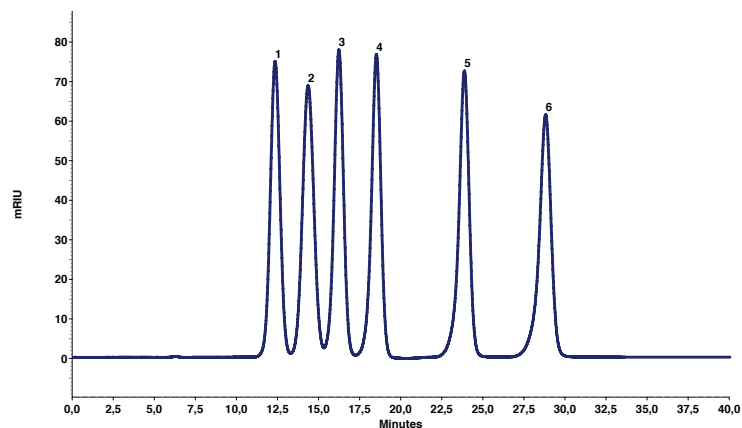
Sample: 1. isomalt, 2. lactate, 3. gluconic acid, 4. mannite, 5. xylite, 6. threitol, 7. glycerine, 8. acetic acid, 9. ethylene glycol, 10. 1,2-propandiol, 11. methanol, 12. ethanol



Eurokat Pb (300 x 8 mm)

Eluent: water, Temp.: 75 °C, Flow: 0.5 ml/min, Detection: RI

Sample: 1. sucrose, 2. glucose, 3. galactose, 4. fructose, 5. mannite, 6. xylite



Eurokat Ca (300 x 8 mm)

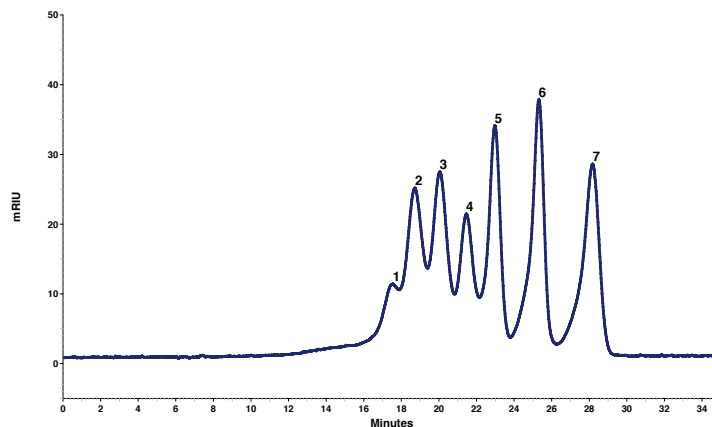
Eluent: water, Temp.: 75 °C, Flow: 0.5 ml/min, Detection: RI

Sample: 1. lactose, 2. glucose, 3. galactose, 4. arabinose, 5. mannite, 6. xylite



Applications

Separation of sugar oligomers.



Eurokat Ag (300 x 8 mm)

Eluent: water, Temp.: 75 °C, Flow: 0.5 ml/min, Detection: RI

Sample: 1. maltohexaose, 2. maltopentaose, 3. maltotetraose, 4. maltotriose, 5. maltose, 6. glucose, 7. fructose

Ordering information

Order No. Eurokat H

03DX340EKN	10 µm, 30 x 4 mm precolumn
30DX340EKN	10 µm, 300 x 4 mm
03GX340EKN	10 µm, 30 x 8 mm precolumn
11GX340EKN	10 µm, 120 x 8 mm
30GX340EKN	10 µm, 300 x 8 mm

03DX340EKS	20 µm, 30 x 4 mm precolumn
30DX340EKS	20 µm, 300 x 4 mm
03GX340EKS	20 µm, 30 x 8 mm precolumn
11GX340EKS	20 µm, 120 x 8 mm
30GX340EKS	20 µm, 300 x 8 mm

Order No. Eurokat Pb

03DX350EKN	10 µm, 30 x 4 mm precolumn
30DX350EKN	10 µm, 300 x 4 mm
03GX350EKN	10 µm, 30 x 8 mm precolumn
11GX350EKN	10 µm, 120 x 8 mm
30GX350EKN	10 µm, 300 x 8 mm

Order No. Eurokat Ca

03DX360EKN	10 µm, 30 x 4 mm precolumn
30DX360EKN	10 µm, 300 x 4 mm
03GX360EKN	10 µm, 30 x 8 mm precolumn
11GX360EKN	10 µm, 120 x 8 mm
30GX360EKN	10 µm, 300 x 8 mm

Order No. Eurokat Ag

03DX380EKN	10 µm, 30 x 4 mm precolumn
30DX380EKN	10 µm, 300 x 4 mm
03GX380EKN	10 µm, 30 x 8 mm precolumn
11GX380EKN	10 µm, 120 x 8 mm
30GX380EKN	10 µm, 300 x 8 mm

Technical data are subject to change without notice.

Visit www.knauer.net for details on complete HPLC systems, HPLC columns, and osmometers.

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