Kromasil®
Eternity™

Kromasil EternityXT

UHPLC/HPLC columns with extended lifetime

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Fit for survival – even under tough conditions

Kromasil EternityXT UHPLC and HPLC columns are our next generation Eternity columns designed to improve efficiency and increase flexibility in your laboratory. This new family of columns is based on our state-of-the-art grafting technology, to be used for reversed-phase separations and purifications that could demand harsh conditions, fast turnaround, easy method transfer and seamless scale-up from R&D to production.

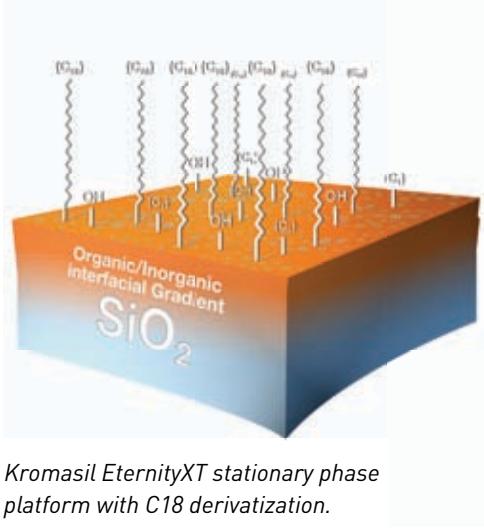
Work faster across the board

With the EternityXT family of columns, you can now easily develop and validate UHPLC methods for synthetic and natural products, even under tough pH conditions; followed by seamless method transfer to HPLC for characterization and quality control; and, if required, direct scale-up for your isolation and purification needs. With our extensive assortment of slurry-packed columns, combined with the wide range of particle sizes from 1.8 µm to 10 µm, we help you improve productivity by using one stationary phase type from the same vendor across your entire company.

The EternityXT columns platform

Kromasil EternityXT columns are the next generation Eternity columns. These new columns are based on further development of the patent-pending Eternity state-of-the-art grafting technology, with superior column-to-column, batch-to-batch reproducibility.

The high chemical stability of the EternityXT columns allows for free choice of buffers and/or the possibility of running at high temperatures.



Kromasil EternityXT stationary phase platform with C18 derivatization.

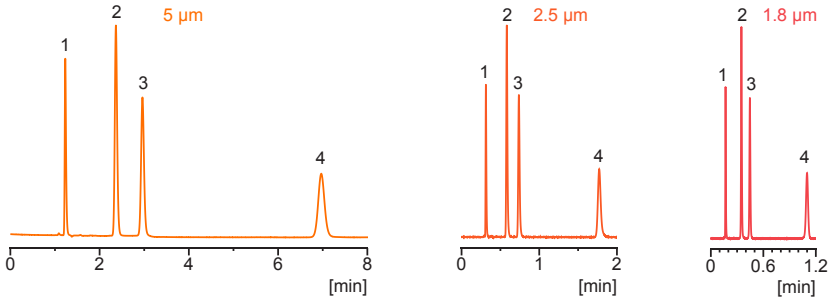
Availability of Kromasil EternityXT columns

- chemistries: C18 and PhenylHexyl
- particle sizes: 1.8, 2.5, 5 and 10 µm
- column diameters: from 2.1 to 50 mm
- column length: from 50 to 300 mm

For actual available offerings, visit our website: www.kromasil.com.

Laboratory efficiency with small particles

When you need to get results faster without compromises, EternityXT columns are your alternative to achieve the desired laboratory efficiency.

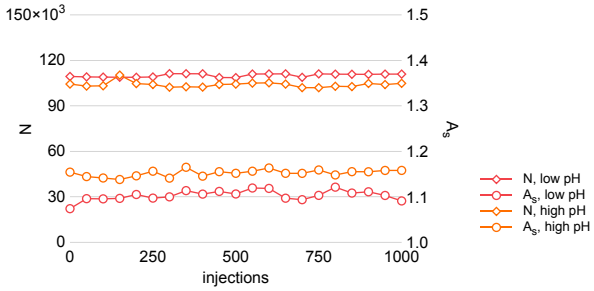


With EternityXT columns you can maintain separation power across all dimensions and particle sizes.
Here is an illustration of faster result turnaround with maintained resolution when using shorter columns with smaller particles.

Conditions
Stationary phase: Kromasil EternityXT, C18, particle sizes as in figures
Column size: 4.6 x 150 mm, 4.6 x 75 mm, 4.6 x 50 mm (respectively)
Mobile phase: acetonitrile/water/formic acid [25/75/0.1]
Substances: 1: uracil, 2: sulfathiazole, 3: sulfamerazin, 4: sulfamethoxazole
Flow rate: 1 ml/min, 2 ml/min, 2.8 ml/min (respectively)
Temperature: 25°C
Detection: UV @ 254 nm

Reduce costs using long-lasting columns

The EternityXT family of columns is based on our latest advancement in stationary phase manufacturing where the columns can be exposed to extended pH conditions. Even with this wide range of operation, these columns have shown consistent and reproducible results.

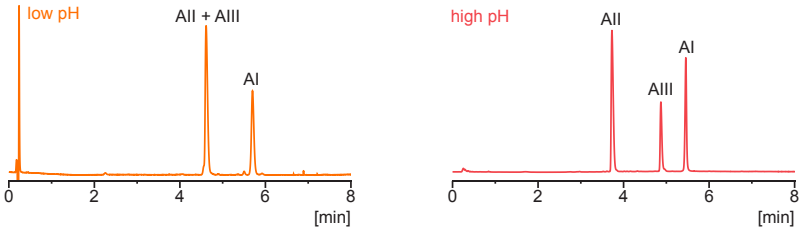


Evolution of column efficiency (N) and peak asymmetry factor (A_S) with the number of sample injections at high and low pH.

Conditions
Column: Kromasil EternityXT, 5 µm, C18, 4.6 x 150 mm
Mobile phase, low pH: acetonitrile/20 mM potassium phosphate pH 2.5 [50/50]
Mobile phase, high pH: acetonitrile/10 mM ammonium carbonate pH 10.5 [70/30]
Substances: acetophenone and toluene
Flow rate: 1 ml/min
Temperature: ambient
Detection, low pH: UV @ 220 nm
Detection, high pH: UV @ 210 nm

Choose your selectivity

Controlling selectivity with pH gives you extended flexibility to develop your next analytical method. EternityXT columns are the choice even for cases where harsh pH conditions can make the unique difference in your separation.

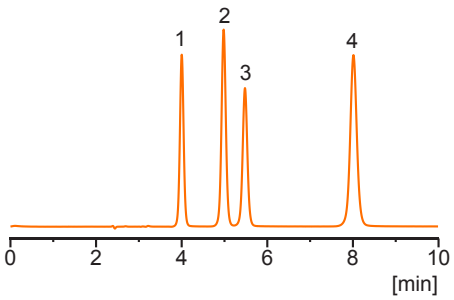


Separation of angiotensins at low and high pH

Conditions
Column: Kromasil EternityXT, 1.8 µm, C18, 2.1 x 50 mm
Mobile phase, low pH: acetonitrile/water + 0.1 % TFA
Gradient, low pH: 0 min: 14%, 10 min: 41% acetonitrile
Flow rate: 0.7 ml/min
Detection, low pH: UV @ 220 nm
Substances: AI: angiotensin I, AII: angiotensin II, AIII: angiotensin III
Mobile phase, high pH: acetonitrile/water with 0.1 % ammonium hydroxide
Gradient, high pH: 0 min: 5%, 10 min: 40% acetonitrile
Temperature: 30°C
Detection, high pH: UV @ 225 nm

Alternatives for your separations

EternityXT C18 columns are commonly used when alternatives are needed to the traditional reversed-phase C18 as EternityXT can resist an extended pH range. EternityXT PhenylHexyl phase provides you with an additional alternative, especially when the analytes of interest contain an aromatic ring.

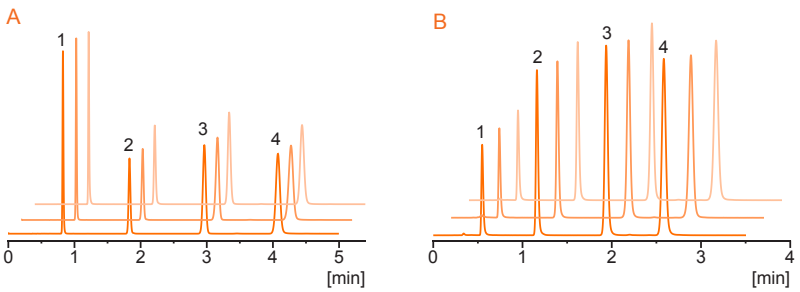


Separation of xanthines on Kromasil EternityXT PhenylHexyl

Conditions
Column: Kromasil EternityXT, 5 µm, PhenylHexyl, 4.6 x 250 mm
Mobile phase: acetonitrile/water/formic acid [40/60/0.1]
Substances: 1: theobromine, 2: 1,7-dimethylxanthine, 3: theophylline, 4: caffeine
Flow rate: 1 ml/min
Temperature: 30°C
Detection: UV @ 254 nm

Consistent results between columns and batches

Since AkzoNobel controls the entire manufacturing process of EternityXT columns, from the initial production steps of the stationary phase to the finished packed columns, we can assure column-to-column reproducibility as well as between batches.



Comparisions of three columns showing column-to-column (A) and batch-to-batch (B) reproducibility.

Conditions
Columns: Kromasil EternityXT, 2.5 µm, C18, A: 4.6 x 100 mm, B: 2.1 x 100 mm
Mobile phases: acetonitrile/water A: [70/30], B: (65/35)
Substances: 1: dimethyl phthalate, 2: toluene, 3: biphenyl, 4: phenanthrene
Flow rates: A: 1.7 ml/min, B: 0.65 ml/min
Temperatures: A: 25°C , B: 35°C
Detection: UV @ 254 nm

The moment you adopt our Kromasil High Performance Concept, you join thousands of chromatographers who share a common goal: to achieve better separations when analyzing or isolating pharmaceuticals or other substances.

Not only will you benefit from our patented silica technology, but you gain a strong partner with a reliable track record in the field of silica products. For the past 70 years, we have pioneered new types of silica. Our long experience in the field of silica chemistry is the secret behind the development of Kromasil, and the success of our Separation Products group. Kromasil is available in bulk and in high-pressure slurry-packed columns. The development, production and marketing of Kromasil are ISO 9001 certified.

Kromasil is a brand of AkzoNobel, the largest global paint and coatings company and a major producer of specialty chemicals with headquarters in Amsterdam, the Netherlands. With 50 000 people in more than 80 countries around the world, we are committed to sustainability and delivering leading products and technologies to meet the growing demands of our fast-changing world.

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