



ZEOCHEM®

## ZEOsphere®

The spherical silica gel of choice  
for preparative chromatography

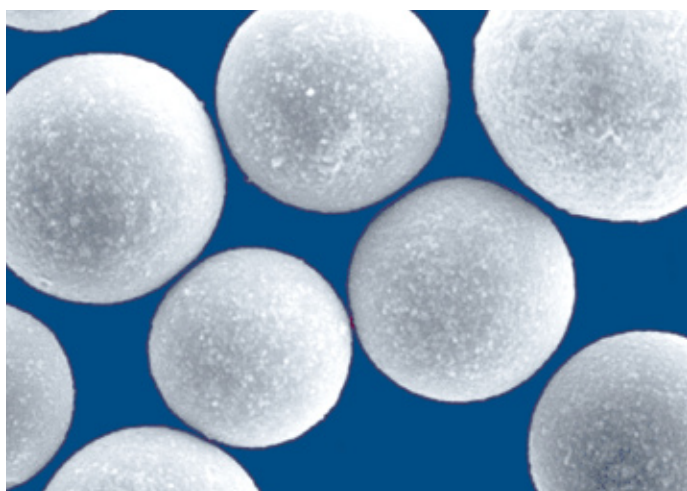




## ZEOSphere® – the spherical silica gel dedicated to preparative chromatography

### bare spherical silica gel

ZEOSphere® is the brand name of a series of perfectly spherical silicas, specifically manufactured for use in liquid chromatography.



SEM of ZEOSphere® 100 15 µm

ZEOSphere® silica gels are produced by an emulsion process on a large batch scale, providing reproducible chromatographic separations of high quality.

Together with our irregular silica gel ZEOprep®, Zeochem is the only company producing spherical and irregular silicagel from the same starting material, providing a seamless transition between the two substrates.

### Product overview

ZEOSphere®	70	100	200	300
Pore diameter (nm)	7	10	20	30
Spec. surface area (m <sup>2</sup> /g)	500	320	200	100
Pore volume (ml/g)	0.8-1.1			
Av. water content (%)	max 4%			

The uniform spherical particle size yields a highly pressure stable silica gel, which is free of fines, giving stable column packings and exhibiting reduced backpressure. The production process employed also produces a material with a narrow pore volume distribution and a high specific surface area, resulting in a very high media capacity for increased yields.

A low metal ion content is also achieved during the production process, limiting any unwanted metal ion solute interactions – providing symmetrical peaks with little or no tailing.

With large production batch sizes, reproducible results from batch to batch are easily achieved, giving you reliable and reproducible separation results.

	ZEOSphere®	Silica D	Silica E
Ca	32	29	38
Mg	7	7	8
Na	35	29	34
K	3	<1	3
Fe	4	<1	2
Pb	<1	<1	<1
total	81	65	85

Metal ion content in ppm

The present product range comprises pore sizes from 70 to 300 Å (7 to 30 nm) and particle sizes from 10 µm up to 40 µm. Other speciality products may be produced to suit your needs. Just talk to us!

## Bonded material

Zeochem's surface modification technology allows the bonding of all existing silica gel products independently of shape, pore and particle size.

A long history and outstanding expertise, combined with large batch capabilities, brings Zeochem to a unique position to fulfill the demands of process applications. Batch-to-batch deviations are thus reduced to a minimum.

Controlling not only the proprietary bonding technique employed but also the base silica manufacturing process are the major source of your success in preparative / process scale chromatography applications.

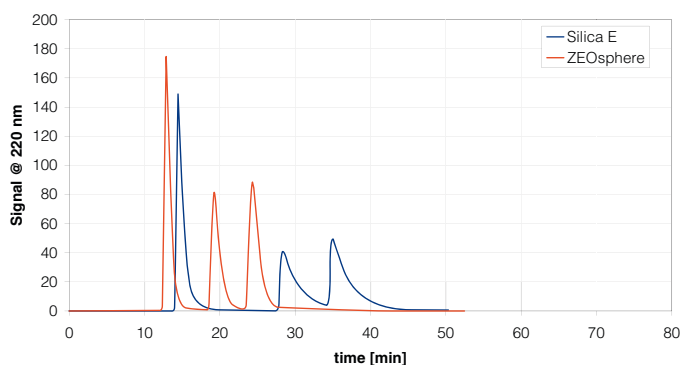
## Advantages

- Large batch sizes (170kg / batch)
- High carbon load reproducibility
- Monofunctional bonding technology
- Standard particle sizes from 10-20 µm (others available upon request)

The base material control combined with the proprietary bonding technique make **ZEOsphere®** the material of choice for all separation processes where

- high resolution
  - good peak shape
  - short elution times
- is demanded, even at elevated pH.

antidepressants separation

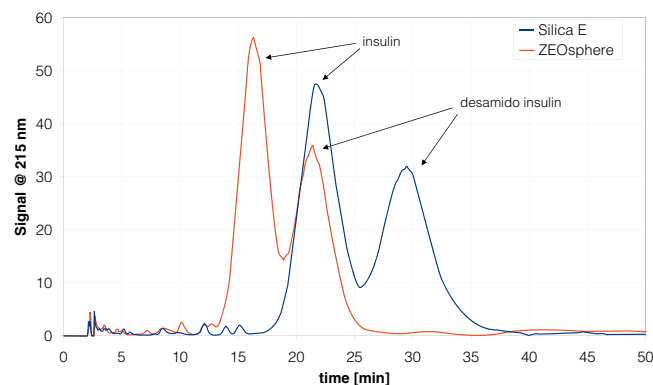


Separation of tricyclic antidepressants (Nortriptyline, Amitriptyline, Imipramine) on C18 silica

Conditions: 25mM (NH<sub>4</sub>)H<sub>2</sub>PO<sub>4</sub> buffer pH=6:

MeOH (28:72) w:w Flow: 0.5ml/min isocratic @ 25°C

raw insulin



Separation of insulin and desamido-insulin on C18 silica

Conditions: 50mM (NH<sub>4</sub>)<sub>2</sub>(SO<sub>4</sub>) buffer pH 3.5: EtOH (70.2:29.8) w:w

Flow: 1ml/min isocratic @25°C

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	ZEOsphere®	70	100	200	300
Base silica	Pore diameter (nm)	7	10	20	30
	Spec. surface area (m <sup>2</sup> /g)	500	320	200	100
	Pore volume (ml/g)	0.8-1.1			
	Particle sizes (µm)	10/15/20			
ZEOsphere® C18	Carbon content (%)	22	20	14	7

Would you like to receive further information?

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