

## VertiPak™ LLE

### General Information

Liquid-liquid extraction (LLE), also known as solvent extraction, has long been an effective method for clean-up lipophilic compounds in a complex aqueous matrix like e.g. biological fluids. Liquid-liquid extractions with traditional separating funnel are often used. There are some disadvantages; multiple extractions required for high recovery rates, formation of emulsions, poor phase separation and high solvent consumption.

VertiPak™ LLE tube is packed with high purity and high surface area diatomaceous earth (also known as Kieselguhr material). Diatomaceous earth acts as an extraction enhancer by dispersing of sample and adsorbing of water. VertPak™ LLE can be used within pH range of 1-13. VertPak™ LLE is a fast, reproducible and economical alternative to classical liquid-liquid extractions, with the following benefits:

- simultaneous preparation of many samples
- no problems with phase separation
- no formation of emulsions
- high recovery rates
- saving of time and solvents
- organic solutions need not to be dried after separation

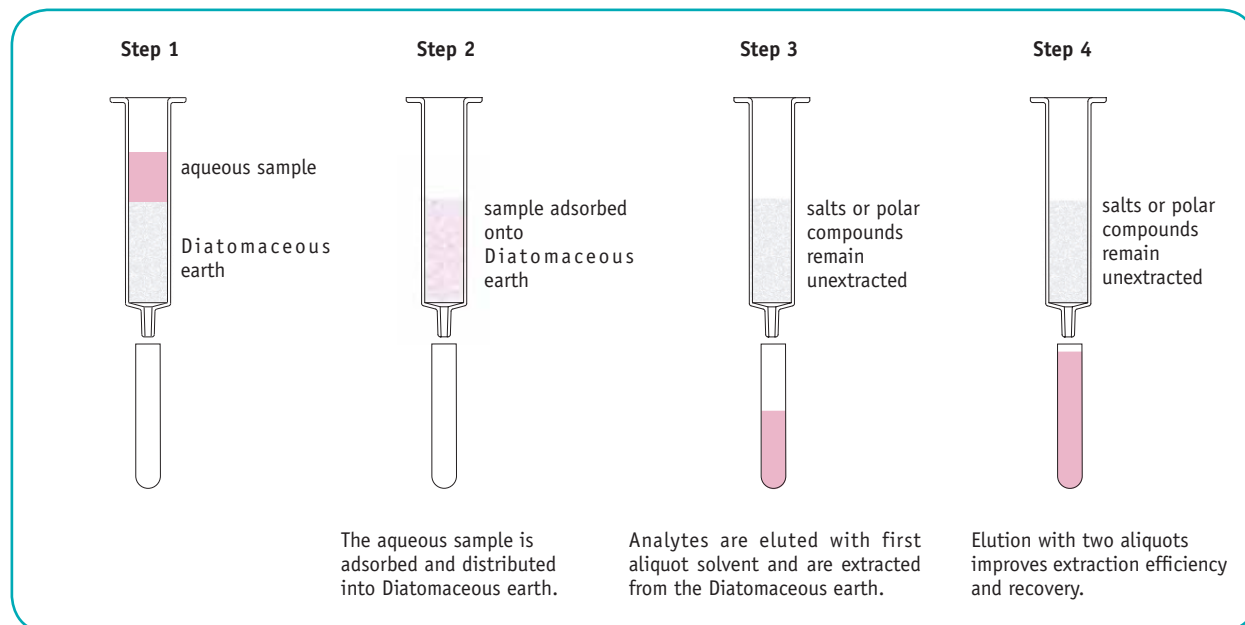
### Applications

VertiPak™ LLE has a broad range of applications for or the extraction of physiological fluids, such as urine, blood, serum, plasma, or others, in clinical chemistry. Other applications are the analysis of dyes in textiles, environmental and food analysis. A fractionated elution of acidic and basic compounds can be applied in the analysis of pharmaceuticals and their metabolites. VertiPak™ LLE is also ideally suited for removing small amounts of water from solvents which are not miscible with water.

### Extraction Procedures

There are 4 steps :

1. Add the aqueous sample to the dry VertiPak™ LLE tube.
2. Wait 3-5 minutes
3. Add the first aliquot of organic extraction solvent and collect.
4. Add the second aliquot of organic extraction solvent and collect.



## VertiPak™ LLE

- High purity Diatomaceous earth to yield accurate results
- Pre-packed extraction tubes are ready-to-use
- Uniform batch-to batch quality
- Simultaneous preparation of many samples
- No problems with phase separation
- No formation of emulsions
- High recovery rates
- Saving of time and solvents
- Organic solutions need not to be dried after separation



Specifications	
Name	Diatomaceous earth
Others names	Kieselguhr, Celite
Description	Flux-Calcined filter aid
Color	White
Particle Size (µm)	150-250
Specific gravity	2.3
Moisture (%)	0.3

General parameters				
Volume	Bed Weight	Sample Volume	Waiting time	Elution volume
1mL	250mg	0.25mL	5min	3mL
3mL	500mg	0.5mL	5min	6mL
6mL	1g	1mL	5-10min	8mL
12mL	3g	3mL	5-10min	12mL
20mL	4g	5mL	5-10min	16mL
35mL	8g	10mL	10-15min	24mL
60mL	14g	20mL	10-15min	40mL

Ordering Information			
Bed Weight	Tube Size	QTY	Part No.
<b>VertiPak™ LLE Tubes</b>			
250mg	1mL	100	0149-2036
500mg	3mL	50	0149-0645
1g	6mL	50	0149-0955
3g	12mL	30	0149-2174
4g	20mL	30	0149-11A4
8g	35mL	30	0149-2284
14g	60mL	10	0149-1490

Sample Extraction

