

# HPLC Sample Preparation

Rely on Sartorius solutions and benefit from optimized workflows for clean results





# Your HPLC results can only be as good as the quality of your sample preparation

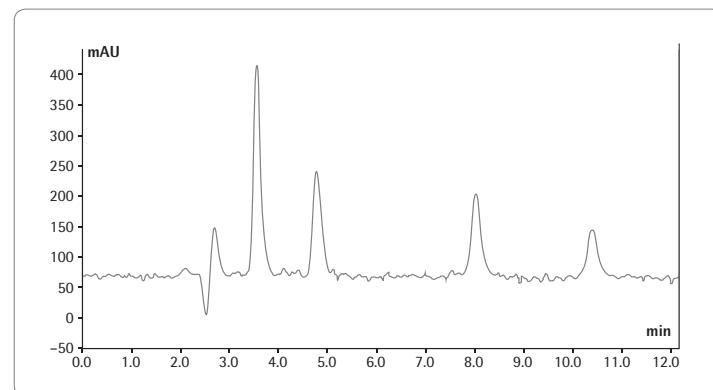
HPLC sample preparation with Sartorius:  
Clean samples = clean results

HPLC is one of the most common high-precision analytical methods. Its primary objective: deliver reproducible and specific results. A sample needs to be optimally prepared so it can be injected directly onto an HPLC column.

To accomplish this, your sample not only needs to be dissolved in the appropriate solvent. Even more important, it must also be free of particles to rule out interference in the best possible way during detection and to prevent blockage of your column. This labor-intensive sample prep is often a tedious chore that is time-consuming.

In HPLC analysis, problems originating from sample preparation can occur.

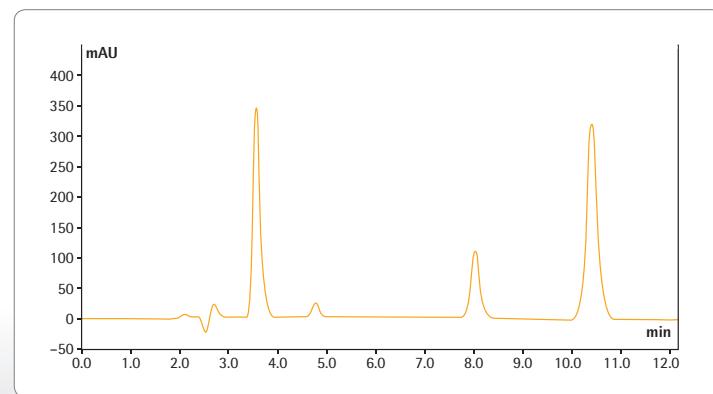
Many of these effects are immediately visible on the chromatogram. Others gradually lead to deterioration of your results, ultimately requiring that you repeat entire series of chromatographic runs.



Chromatogram with pronounced background noise and peak tailing

Using Sartorius products to prepare samples for HPLC prevents the usual problems from occurring and permits higher analytical accuracy to be attained.

- No blockage of your HPLC column
- Higher sensitivity of your HPLC column
- Higher accuracy
- Fewer false-positive peaks
- Less background noise
- No leachables



Chromatogram with a stable baseline and symmetrical peaks

# Consistent baselines and fewer ghost peaks with fresh ultrapure water

The arium® mini plus UV ultrapure lab water system with a unique Bagtank system

Tests have proven that up to 80% of the problems occurring during HPLC runs are attributable to inadequate water quality. This is why the use of a highly pure mobile phase is essential for ensuring the highest analytical-grade quality. The eluents must be especially pure in terms of their physical and chemical properties and may not contain any organic impurities or particles. Even purchased HPLC-grade water is frequently found to have a high total organic carbon (TOC) level.

"Rely on up to 10 L of Type 1 water dispensed daily with consistently the highest quality."



**Consistently the lowest TOC levels**  
The closed Bagtank system reliably protects purified water from secondary contamination by airborne particles and organisms, such as microbes.

**Constantly low conductivity**  
Automatically controlled pressure compensation reliably prevents CO<sub>2</sub> from penetrating the disposable bag of the Bagtank system. Moreover, arium® mini plus UV rules out typical impurities that would otherwise result from HPLC-grade bottled water, such as Na<sup>+</sup> ions.

**No biofilm formation**  
Depending on your needs, the bag can be easily exchanged within just 5 minutes. This prevents the buildup of a biofilm that commonly occurs inside conventional tank systems. As a result, an additional source of TOC is eliminated right from the start.

Preparation of Solvents



arium® mini plus UV  
lab water system



## Automatic preparation and documentation of 100% comparable HPLC standards

Cubis® MSA individual system with Q-App software for HPLC standards

For quantitative HPLC, it is essential for you to prepare standard series with defined concentrations. As it is nearly impossible to weigh in a solid so accurately that a predefined volume of solvents can be used, you usually have to do considerable "manual labor" in writing down the values and number crunching. This is not only complicated, but also error-prone and time-consuming, plus it uses up materials budgeted in your overhead.

**"Simply let your Q-App software take care of calculations along with documented preparation of HPLC standards."**



Preparation of Standards

Cubis® balance with Q-App software

# Safe and reliable pipetting of even the smallest volumes

## Tacta® mechanical pipette with Low Retention tips

To prepare solvents for filtration, you need to pipette them accurately. Given their expensive price tag, it is really important to use every last microliter. Sure, this may be routine work for you, but with the best equipment, you will be able to make a positive impact on your lab budget.

"Enjoy the perfect balance of convenience, dependability and intelligent safety lock technologies."



### Effortless pipetting

The new Tacta® mechanical pipette is perfectly balanced to meet all your needs during pipetting. Its ergonomic design and low weight ensure easy and convenient handling.

### Volume adjustment lock

Optilock, a unique Sartorius feature, provides flexibility for volume adjustment and locking – reliably preventing accidental volume changes during pipetting.

### Easy calibration and adjustment

Especially in HPLC, you need a simple way of adjusting your pipette to many liquids with different viscosities to ensure accurate results during pipetting.

### Optimal sample recovery

The matching Low Retention tips feature an exceptionally even and repellent surface so that virtually zero residual liquid is retained inside.

Pipetting



Tacta® pipette with  
Low Retention tips



# The power of simplicity: Filter 8 HPLC samples simultaneously

## Claristep<sup>®</sup> filtration system

Clarification by filtration to remove particles from samples decisively impacts the separation efficiency of your HPLC column and thus the reliability of your results. The most common filtration method is to use syringe filters. They're great if you have a small number of samples. But when you have to filter many samples, this can quickly turn into a tedious – and strenuous – chore.

"Save time by  
parallel filtration  
of your samples."

### ■ Total ease of use

Claristep<sup>®</sup> is a filtration system designed to save you both time and effort. Thanks to the patented design of the Claristep<sup>®</sup> station, you can now quickly and easily filter up to eight 60 µL to 600 µL HPLC samples in parallel using one hand – without the need for AC power, vacuum pumps or syringes.

### ■ Gentle filtration

Claristep<sup>®</sup> filter units with regenerated cellulose membranes have been optimized for organic and aqueous solutions and provide maximum chemical resistance and compatibility. Just pipette each sample into the reservoir on top of every filter. A light press on the station lid will close all 8 filter unit caps. This works like a self-filtering system. The samples pass through the membrane filters, available in a choice of 0.2 µm or 0.45 µm pore size, and are collected directly in your sample vials.



Filtration

Claristep<sup>®</sup>  
filtration system

# The right membranes to filter samples with special properties or low volumes

## Minisart® syringe filters

If you need to filter HPLC samples that have special properties or small volumes, the use of syringe filters is the method of choice. Featuring a pore size of 0.2 µm or 0.45 µm and a selection of special membrane materials and diameters, the proven Minisart® with a polypropylene housing reliably removes particles, without adding any extractables or leachables to your sample.

"Rely on over 30 years of proven Minisart® quality for all your sample properties."



### ■ RC membrane for aqueous solutions and solvents

Minisart® RC with a regenerated cellulose membrane has been optimized for aqueous solutions and solvents. Its especially high chemical compatibility permits it to be used in a wide variety of applications. Minisart® RC is resistant to DMSO, other amides, ketones, esters and ether compounds.

### ■ NY membrane for especially alkaline aqueous solutions and solvents

Minisart® NY with a nylon membrane and Minisart® GF+NY with the purest glass fiber prefilter and nylon membrane are optimally designed for the filtration of alkaline aqueous solutions and solvents. Their unique purity compared with other common polyamide membranes ensures clean samples.

### ■ PTFE membrane for aggressive chemicals

Minisart® SRP with a hydrophobic PTFE membrane has been optimized for filtration of especially aggressive chemicals. The membrane without any coating whatsoever guarantees absolutely leachable-free clarification of samples.

Filtration



HPLC

Minisart®  
filtration units

# Clean results in HPLC with Sartorius:

- No blockage of your HPLC column
- Higher sensitivity of your HPLC column
- Higher accuracy
- Fewer false-positive peaks
- Less background noise
- No leachables

"HPLC sample preparation with  
Sartorius: Because every detail counts  
in highly sensitive analysis."

We have the right solution for you:  
Just contact your Sartorius sales specialist today –  
you'll be convinced.

Contact us – you will find further information here:



[www.sartorius.com/hplc-sampleprep](http://www.sartorius.com/hplc-sampleprep)