



HICHROM

Chromatography Columns and Supplies

**LC CONSUMABLES
AND ACCESSORIES
Membrane Suppressor
for Anion
Chromatography**

Catalogue 9

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MEMBRANE SUPPRESSOR FOR ANION CHROMATOGRAPHY

- High capacity membrane suppressor
- Low and stable background levels and high sensitivity in routine analysis
- Can be integrated with any ion chromatography system
- Suitable also for high ion-strength eluents and gradient applications

Anion-exchange chromatography with suppressed conductivity detection is the most widely used of the IC techniques. Typical eluents used with this technique are carbonate or hydroxide. In order to increase the sensitivity of anion detection relative to background eluent, a suppressor is typically placed between the column and the detector.

SAMS (SeQuant® Anion Membrane Suppressor)

SAMS is a chemically regenerated membrane suppressor for anion chromatography, manufactured by Merck Millipore. Its operation is based on selective exchange of protons from an external regenerant channel for cations from the eluent. SAMS features both high transport capability and low band-broadening.

There are dual benefits of using a suppressor. Since typical eluents in anion chromatography are based on anions of weak acids, the neutralisation of these in the suppressor significantly decreases the background conductivity level and noise. In addition, the analyte ions are normally anions of strong acids, so as a result their conductivity increases when the eluent cations are exchanged for protons. Figure 1 shows the suppressor reaction with carbonate eluent ions.

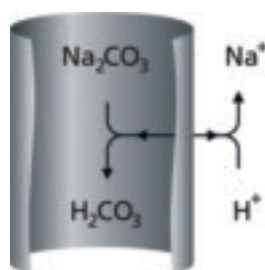


Figure 1. Suppressor reaction with carbonate eluent ions



CARS (Continuous Anion Regeneration System)

Anion chromatography is made easy by the use of the CARS continuous background conductivity suppression system in conjunction with the membrane suppressor SAMS. The CARS system ensures that optimised suppression is obtained, by the continuous dynamic regeneration of SAMS from an external regenerant cartridge. In addition, low background conductivity levels and high sensitivity are obtained, regardless of the flow rate and eluent composition.

The combined SAMS/CARS system (Figure 2) can be successfully used for standard routine operation, but due to its very high and continuous capacity the system is also suitable for high ion-strength eluents and gradient elution.

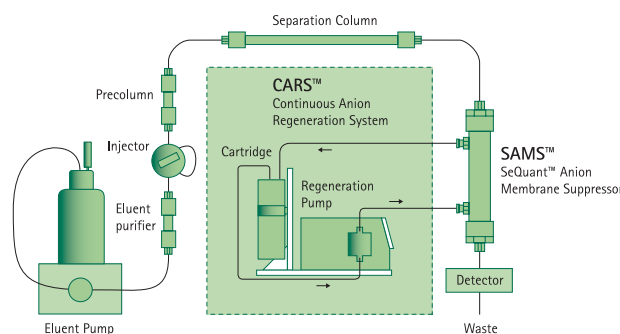


Figure 2. Schematic diagram of CARS and SAMS in ion chromatography system

ULB-P Regeneration Solution

When used in the CARS system, the ULB-P regenerant solution acts as a shuttle for transporting protons between the regenerant cartridge and the SAMS unit.

Ordering Information

Item	Description	Catalogue No.	Price
SAMS Anion IC Suppressor	100cm membrane for standard analysis	1506090001	
	200cm membrane for gradient analysis	1506100001	
CARS Continuous Anion Regeneration System	Includes pump, 1 small CARS cartridge, 1 x 100ml ULB-P regeneration solution and suppressor installation kit	1506110001	
CARS Replacement Cartridge - small	0.5 litre, capacity 0.9eq	1506130001	
CARS Replacement Cartridge - large	0.75 litre, capacity 1.3eq	1506140001	
ULB-P Regeneration Solution	100ml	1506160100	
Pressure Relief Valve	100psi	1506180001	

To get started you need the CARS system (1506110001) and a SAMS suppressor (1506090001). In addition, a pressure relief valve (1506180001) is recommended.