

Alltech® Anion/R Column

About the Packing

The Alltech® Anion/R Column is packed with a poly (styrene-divinylbenzene) based anion exchanger with trimethyl ammonium functional groups. The packing material is 10µm in size and stable in the pH range of 2-12.

About the Column

The Alltech® Anion/R Column separates inorganic anions by ion chromatography (IC) methods. The column can be used for both single-column and suppressor-based IC applications.

Figure 1 shows the separation of fluoride, chloride, nitrite, bromide, nitrate, phosphate and sulfate using p-hydroxybenzoic acid mobile phase with conductivity detection in the single column IC mode. The separation of seven common anions plus sulfite is shown in **Figure 2** using a carbonate/bicarbonate mobile phase and suppressed conductivity detection. This column is also suitable for the separation of weak acid anions such as fluoride, borate, cyanide, silicate and sulfide. **Figure 3** shows the separation of weak acid anions using sodium hydroxide mobile phase and indirect conductivity detection.

Care and Use

The Alltech® Anion/R Columns are individually tested using p-hydroxybenzoic acid mobile phase. A test chromatogram is enclosed with each column. Duplicate the test chromatogram on your instrument as soon as you receive the column. Contact Grace or your Grace representative if you have any problems at this time.

Ion exchange columns, like all liquid chromatographic columns can be damaged after extended use. This problem is visible as a loss in efficiency and column performance. A column can be damaged by using incompatible solvents, exceeding column pH limitations, or not filtering the sample and the mobile phase.

Best Insurance for a Long Column Life

Filter all samples and mobile phases through 0.5µm (or smaller) filters before analyses. Use only IC grade water for preparation of mobile phases and standards.

- Use pure reagents for mobile phase preparation.
- Pretreat samples with Alltech® Maxi-Clean™ SPE devices to remove interferences or contaminants.
- Use a guard column when injecting real world samples.
- The guard column protects the analytical column from contaminants. The Alltech® All-Guard™ GA-1 or Anion/R guard cartridges are recommended for use with the Alltech® Anion/R Columns.

In some cases, a contaminated column can be rejuvenated by the following regeneration procedure. In other cases, the column must be replaced.

Regeneration Procedure for the Alltech® Anion/R Column

Pump the following solvents through the column sequentially at 1mL/min:

1. 100mL 50mM disodium EDTA (adjusted to pH 10.0 with sodium hydroxide)
2. 100mL deionized water
3. 100mL 50mM sulfuric acid in 50% acetonitrile:water
4. 100mL deionized water

After the regeneration, equilibrate the column with mobile phase and inject a test sample. If performance is still poor, replace the column.

Storage Solvent

The Alltech® Anion/R Column can be stored in the mobile phase, if it is stored for a short period of time. For long time storage, store the column in 100% Methanol.

Figure 1

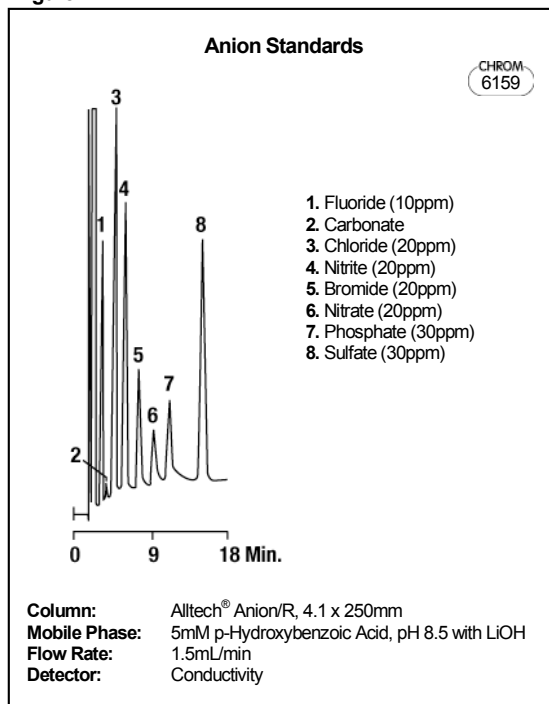


Figure 2

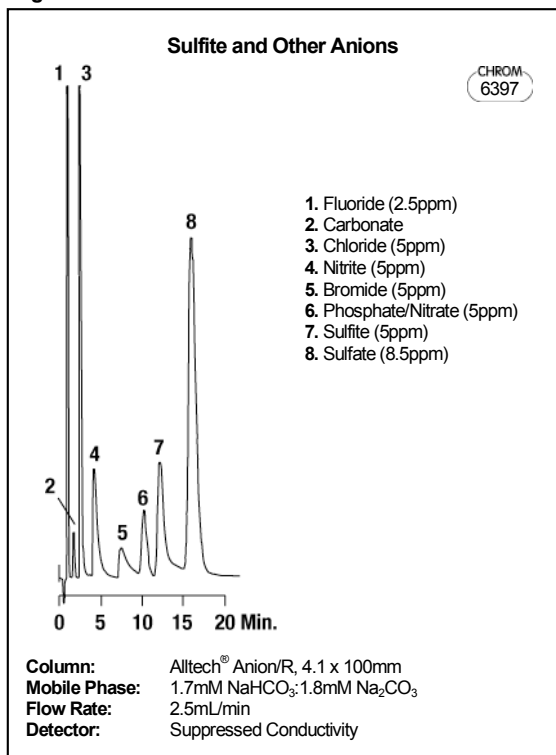
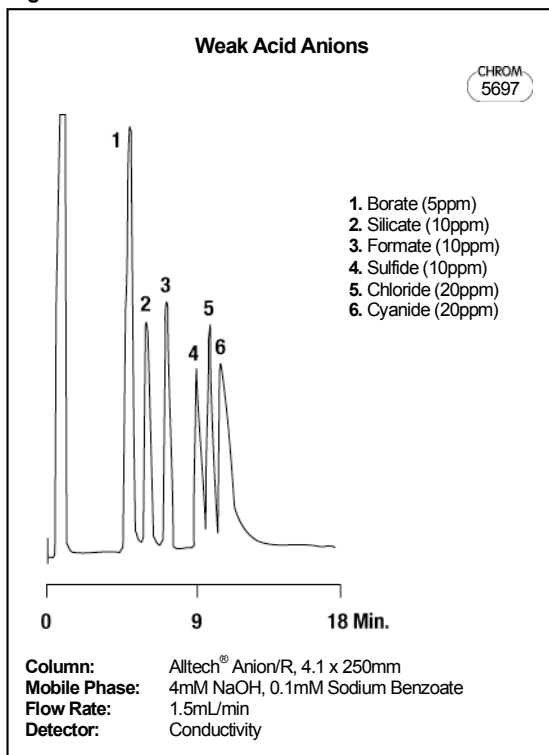


Figure 3

**Alltech® Anion/R Columns**

Description	Part No.
Alltech® Anion/R Column	
4.1 x 100mm (SS)	269031
4.1 x 250mm (SS)	269029
4.1 x 100mm (PEEK)	269036
4.1 x 150mm (PEEK)	269034
All-Guard™ GA-1 Anion Kit (PEEK)	38109
Includes: 1 Holder and 3 Cartridges	
All-Guard™ Anion/R Kit (SS)	280779
Includes: 1 Holder and 3 Cartridges	

CAUTION

Users should be aware of the hazards associated with their mobile phase. Always use appropriate personal protective equipment such as safety goggles or glasses, Lab coat and gloves when the column is in operation or when handling mobile phase.

WARNING

Columns operate at high pressures. To avoid leaks or pressure related failures, please ensure all fittings and connections are tight and secure before operating the column. Refer to the QC chromatogram for maximum operating pressures.

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