Column Care and Use Instructions
YMC-Pack PolymerC18

1. Introduction

Thank you for purchasing a YMC high-performance liquid chromatography (HPLC) column. YMC-Pack polymerC18 is a reversed phase HPLC column, based on hydrophilic methacrylate polymer bonded with octadecylsilane reagent.

YMC HPLC columns, which are manufactured under highly controlled conditions, must pass a series of stringent tests before being accepted for shipment. (Please refer to the column inspection report). To ensure optimal performance and durability of the column, please read these instructions carefully before using this column.

2. Column connections

The "WT" or "QT" at the end of the product code indicates the style of column endfittings.
WT = Waters style / QT = Parker style

3. Shipping solvent

Indicated in the COLUMN INSPECTION REPORT. Replace with this solvent for storage.

4. Mobile phase

- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- Organic solvents are compatible with aqueous or buffer salts/additives solution in arbitrary proportion.
- In general, acetonitrile, methanol and tetrahydrofuran (THF) are recommended for regular use.
- Recommended pH ranges of the column are between 2.0 – 13.0. When using the column at pH more than 10, 10% concentration of organic solvent should be added.
- When using the column at pH near the upper or lower limit, the column durability will shorten under certain conditions by temperature and mobile phase composition.
- Replace the mobile phase by stepwise or gradient. Extreme change of organic solvent concentration should be avoided as possible. (For example, 100% acetonitrile from 100% water.)
- When replacement of buffer solution from organic solvent (containing aqueous organic solvent) or vise versa, flush with approximately 10 column volume of water once.

5. Column cleaning (general method)

- For alkaline cleaning, flush for about 1 hour at a low flow rate with 0.1 M sodium hydroxide solution / acetonitrile (80/20).
- For acid cleaning, flush for about 1 hour at a low flow rate with 0.1% phosphoric acid aqueous solution.
- Flush with water after the acid or alkali cleaning, and then replace with an aqueous solution containing about 50% concentration of organic solvent.

6. Other environments

- The operating pressure should be kept under 15 MPa (2175 psi). Normally, using under 10 MPa (1450 psi) is recommended.
- Recommended flow rate is 0.5 – 0.8 mL/min for 4.6 mm I.D. column.
- Adjust the flow rate appropriately because the pressure changes depending on the column length, temperature, types of organic solvent etc.
- To prevent exposure of the column to excessive pressure, the sample solution should be filtered through a 0.2 μm membrane or smaller to remove particulates. We recommend using a pre-column filter to prevent the column frit from being clogged with samples.
- Avoid using a column repeatedly near the pressure limit or abrupt change in pressure to prevent shortening of the column life.
- The upper limit of column temperature is 65 °C. However, we recommend using the column at 25 – 35 °C.

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