Column Care and Use Instructions
YMC-Pack ODS Series (-A, -AM, -AQ, -AL), C_8, C_4, TMS, Ph, CN YMCbasic, YMC Carotenoid

1. Introduction

Thank you for purchasing a YMC high-performance liquid chromatography (HPLC) column. 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 "PTH" at the end of the product code indicates the style of column endfittings.
WT = Waters style / PTH = Parker style

3. Shipping solvent

Indicated in the COLUMN INSPECTION REPORT. Replace with this solvent for storage. When replacing a mobile phase containing buffer salts/additives, extra care must be taken to prevent salt precipitation.

4. Mobile phase

- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- Aqueous or non-aqueous solvent can be used as a mobile phase. Repetitive replacement among solvents with large difference in polarities might degrade the column performance. In general, organic solvents are acetonitrile, methanol and tetrahydrofuran (THF) are recommended for regular use. When using THF as a mobile phase, be mindful of the solvent resistance of your system or tubing (PEEK parts are especially unsuitable for use with THF).
- Recommended pH ranges of the column are between 2–7.5.
- When using the column at pH near the upper or lower limit, a mobile phase containing 10% concentration of organic solvent should be used. The column lifetime will shorten under certain conditions by temperature and mobile phase composition.
- When replacing mobile phases, make sure of the miscibility among the organic solvents and take care to prevent the precipitation of buffer salts/additives to avoid overpressuring the column.

YMC-Pack CN

YMC-Pack CN column can be used under normal phase and reversed phase conditions. The column is shipped in 50% acetonitrile aqueous solution. Before using a column with normal phase, flush the column with 2-propanol etc. To extend column life, continued switching of mobile phase between normal and reversed phase should be avoided. When switching the mobile phase, pay attention to a usable maximum pressure of the column.

5. Column cleaning (general method)

- Flush the column with solution containing a higher ratio of organic solvent for washing out the compounds that have a great capacity for retention in the column after using mobile phases not containing buffer salts/additives. Usable concentration of organic solvent is up to 100%. A cleaning solution containing THF might be effective when removing highly hydrophobic (lipid-soluble) substances that are adsorbed onto the gel.
- When using mobile phase containing buffer salts/additives, first replace with a water/organic solution containing no buffer salts/additives (A ratio of water to organic solvent should be set at the same proportions as a mobile phase). Then flush the column in accordance with the method described above. Mobile phase containing about 50 mM or less in buffer salts/additives can be replaced directly with 60% acetonitrile aqueous solution.

YMC CO., LTD.
YMC Karasuma-Gojo Bldg., 284 Daigo-cho, Karasuma Nishiiru Gojo-dori, Shimogyo-ku, Kyoto 600-8106, Japan
TEL +81-75-342-4515 FAX +81-75-342-4550
URL:www.ymc.co.jp E-Mail:sales@ymc.co.jp

- Flushing with 100% water after using the column around the pH limit might shorten the column lifetime. Flush the column with water/organic solution as described above, such as 60% acetonitrile aqueous solution.
- Once macromolecules such as proteins or polysaccharides are adsorbed onto the gel, they are hardly removed, even if solvents with high eluting capability are used. To avoid contamination of the column by them, conduct sample pretreatment carefully before introduction into the column. Alternatively use a guard column.

YMC-Pack CN

In the case that the adsorption of polar substances is estimated after the normal phase separation using non-aqueous mobile phase, flush the column with 2-propanol etc.

6. Other environments

- The operating pressure should be kept under 20 MPa (2900 psi) for 150 mm length column or less, under 25 MPa (3625 psi) for 250 mm length column, under 10MPa (1450 psi) for 10 mm I.D. column or more. For 3 µm particle size and 150 mm or 250 mm length column, the operating pressure should be kept under 30 MPa (4350 psi).
- 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.
- Adjust the flow rate appropriately because the pressure changes depending on the column length, temperature, types of organic solvent etc.
- The upper limit of column temperature is 50 °C. However, we recommend using the column at 20–40 °C, because column lifetime varies depending on conditions such as pH.

YMC CO., LTD.

YMC Karasuma-Gojo Bldg., 284 Daigo-cho, Karasuma Nishiiru Gojo-dori, Shimogyo-ku, Kyoto 600-8106, Japan
TEL +81-75-342-4515 FAX +81-75-342-4550
URL:www.ymc.co.jp E-Mail:sales@ymc.co.jp