

# Column Care and Use Instructions

## YMC-Pack SIL/YMC-Pack SIL-06

## YMC-Pack Diol-NP

## YMC-Pack PVA-Sil

### 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 "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. When replacing mobile phases, make sure of the miscibility among the solvents.

### 4. Mobile phase

- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- In general, non-aqueous solvents are used as a mobile phase. Chloroform and *n*-hexane are used as basic mobile phase, and organic solvents such as 2-propanol and ethyl acetate are added to the mobile phase to shorten the retention time of polar compounds.
- Adding water, acetic acid, or formic acid to mobile phase is possible. In this case, the same column is not recommended for developing a new method, because exposure to acid or alkali may change the retention characteristics of a column.
- Recommended pH ranges of the column are between 2.0 – 7.5. For PVA-Sil, pH ranges of 2.0 – 9.5 are available.

### 5. Column cleaning (general method)

- In the case that the adsorption of polar substances is estimated, flush the column with 2-propanol etc.
- When using mobile phase containing acid or alkali, flush with the solvent containing no acid or alkali. Then replace the column with shipping solvent or *n*-hexane/2-propanol etc. for storage.

### 6. Other environments

- The operating pressure should be kept under 20 MPa (2900 psi) for less than 150 mm length column, under 25 MPa (3625 psi) for 250 mm length column, under 10 MPa (1450 psi) for more than 10 mm I.D. column.
- 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 to use 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.