

# YMC-Triart C18

## Column Care and Use Instructions

### Introduction

Thank you for purchasing a YMC high-performance liquid chromatography (HPLC) column. YMC-Triart C18 is a multipurpose reverse phase column utilizing C18 bonded to hybrid silica gel. The column is designed to work under various analytical conditions and deliver exceptional selectivity and stability. YMC-Triart C18 is manufactured under highly controlled conditions and must pass a series of stringent tests before being accepted for shipment. (Please refer to the column inspection report). Please read these instructions carefully before using this column. Adhering to these instructions will insure excellent column lifetime.

### Column connections

Indicated by the last digit on the column label in bracket. (W). = compatible with Waters system connection for ferrule depth.

### Shipping solvent

100% Acetonitrile. Replace with this solvent for storage. When replacing an eluent containing buffer or salts, take extra care to prevent precipitation of salt.

### Precautions for use

- The correct direction of solvent flow is indicated by an arrow on the column identification label.
- Pressure limit : For column length < 250 mm and diameters < 10 mm I.D. : 20 MPa (2900 psi). For length 250 mm and diameters < 10 mm I.D. : 25 MPa (3625 psi). For diameters 10 mm I.D. or larger : 10 MPa (1450 psi).
- Recommendations of pH and temperature for column use

pH range	Temperature range	
	Ambient (recommended)	Upper limit
pH 1 ~ 12	20 ~ 40	pH 1 ~ 7 : 70 pH 7 ~ 12 : 50

- \* Column lifetime depends on conditions such as temperature and eluent composition. In general, factors such as higher temperature, higher concentration of additives, and/or lower concentration of organic solvents may result in shortening column lifetime.
- \* When using the column long term under alkaline conditions, it is recommended to use a low concentration (about 1 to 10 mM) of organic buffer (triethylamine, glycine, etc.) with eluent (methanol is recommended) at lower temperature (less than about 30 degree C).
- It is possible to use aqueous or non-aqueous solvents as eluents. Repetitive replacement between solvents with large differences in polarity may result in degradation of column performance. Recommended general organic solvents are acetonitrile, methanol and tetrahydrofuran (THF). For use of THF, please mind the solvent resistance of your system (e.g., PEEK tubing).
- When replacing eluents, make sure of miscibility among the organic solvents and take care to prevent the precipitation of salt to avoid over-pressuring the column.
- Use sample diluent that has the same composition as the initial eluent conditions. Avoid using diluent that is a stronger solvent strength than the starting eluent conditions used for the chromatography run.
- Sample and sample solution must be filtered with a 0.45 µm membrane or smaller to remove particulates.

### Column cleaning (general method)

- Flush the column with eluents that contain a more concentrated organic solvent and have a great capacity to retain in the column after using mobile phases that do not contain buffers (or salts). Usable concentration of organic solvent is up to 100 %. Adding THF is effective especially when removing highly lipid-soluble components that are adsorbed on the column.
- After using mobile phases that contain buffers (or salts), first replace with solvents (Water/organic solvent at same proportions as eluent) that do not contain buffers (or salts), then flush the column according to the method mentioned earlier. It is possible to replace with about 60 % acetonitrile aqueous solution directly if the mobile phase contains about 50 mM buffer (or salt).
- There is a possibility to shorten column life when you flush 100% water after using the column with solvent near the pH limit. Flush the column as noted above according to whether or not the mobile phase contained buffer (or salt), or use 60 % acetonitrile aqueous solution.
- To avoid contaminating the column by adsorption of high molecular weight compounds such as proteins or polysaccharides, pre-treat the sample or use a guard column.

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