# STR ODS-Ⅱ

## Instruction Manual

### 1. Introduction

Thank you for purchasing our STR ODS-II series column for High-performance liquid chromatography. The STR ODS-II series columns are packed with totally porous, spherical silica particles (5 μm; particle diameter, 12 nm pore diameter) chemically modified surfaces. This series are designed for trace, analytical and preparative separations. This silica packings are fully end-capped to suppress residual silanol group influences. To ensure optimal performance and durability of the column, please read these instructions carefully before using this column.

### 2. Preparation of mobile phase and sample solution

・To protect the chemically modified silica surface, do not use solution of lower than pH 2 or higher than pH 7.5.

・Dust particles in mobile phase or sample solution lead to increase of pressure by plugging at the column inlet filter or at the top of column bed. Filtrate mobile phase and sample solution prior to use, if necessary.

### 3. Operating Care

・Mobile phase flow should be in the direction as indicated on the column label.

・Ensure that the fittings to the flow lines are connected properly to avoid leaks and dead volume.

・Do not subject to shock such as dropping, etc.

### 4. Analytical and preparative separation

・Columns supplied are filled with methanol/water (analytical; 75/25, preparative; 85/15). Please refer to flow rate for the replacement listed below.

| Inner diameter (mm) | Flow rate (mL/min) |
|---|---|
| 2 | 0.1 |
| 4 | 0.3 |
| 4.6 | 0.5 |
| 6 | 0.7 |
| 20 | 5.0 |

・A polar organic solvent (methanol, acetonitrile etc.) and an aqueous buffer are commonly used as a mobile phase in reversed-phase HPLC. While replacing the desired mobile phase into the column and LC system lines, in case, if the mobile phase contains buffer solution, care must be taken to avoid salt precipitation. For the separation of ionic substances, appropriate adjustment of pH and/or addition of salts and/or counter ions may result in improved elution times and peak shapes. Recommended ion-pair reagent are as follows:

acidic samples: tetrabutylammonium

basic samples: pentane sulfonate

The pH must be carefully adjusted within an acceptable range.

・To elute strongly adsorbed substances more rapidly, employ a stronger non-polar solvents of either isocratic binary composition (eg. addition of tetrahydrofuran to methanol/water brings earlier elution).

・Maximum usable pressure is 20 MPa; lower pressure (15 MPa＞) lead to longer lifetime at high efficiency.

・Maximum analytical temperature is 80℃, when mixtures of water or acidic aqueous solution( pH 3.0 or greater) and acetonitrile are used.

**5. Maintenance of column <General Precaution>**

・After use, flush with methanol then store with plugged ends to prevent evaporation.

・For removing adsorbed matter from the column top, use a flush solvent having strong dissolving power such as tetrahydrofuran or chloroform excepting PEEK column.

・However, if amines, such as trimethylamine or tetrabutylammonium, were added to the mobile phase, flush with a mixture of methanol/0.05% phosphoric acid 50/50, then with methanol. Do not pump with water only.

・For flushing, set proper flow rate to avoid over pressure.

・Clean the column with the mobile phase. And then, replace the mobile phase in the column with the shipping solvent (analytical: methanol/water : 75/25, preparative: methanol/water : 85/15) and close the column with end stop plugs tightly and store at room temperature.

Note: in case of mobile phase contains buffer solution, replace the buffer solution of the mobile phase with purified water.

STR ODS-Ⅱ series packed columns are shipped under highly controlled conditions. However, if you should find any defect, please contact your dealer or Shinwa.

Note that Shinwa does not warrant the product against column life or deterioration caused by the failure to follow the above instructions.

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