

### Introduction

The use of guard columns to protect both analytical and preparative columns is highly recommended. COSMOSIL guard columns are packed with identical packing material to analytical and preparative columns. As a result, COSMOSIL guard columns do not affect the performance of the main column.

### Selection of Guard Column

Use a guard column with the identical packing materials to the analytical or preparative column. Regarding size, use the same or smaller inner diameter, and short column length (10–50 mm). For more information on the product code or size, please refer to our catalog or web site.

Example: If the main column is 5C18-MS-II (20 mm I.D. x 250 mm), 5C18-MS-II (10 mm I.D. x 20 mm) is effective as a guard column.

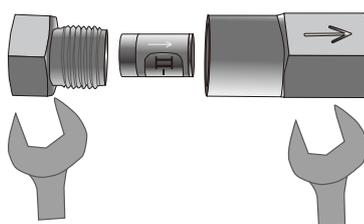
### Guard Cartridge

For common sizes (4.6 mm I.D. x 10 mm), guard columns and economically priced guard cartridges are both available. Guard cartridges are disposable guard columns with identical packing materials to analytical columns. When using guard cartridges, a COSMOSIL guard cartridge holder (product no. 38009-79) is required. The holder is reusable.



COSMOSIL Guard Cartridge Holder (Left)  
Guard Cartridge (Right)

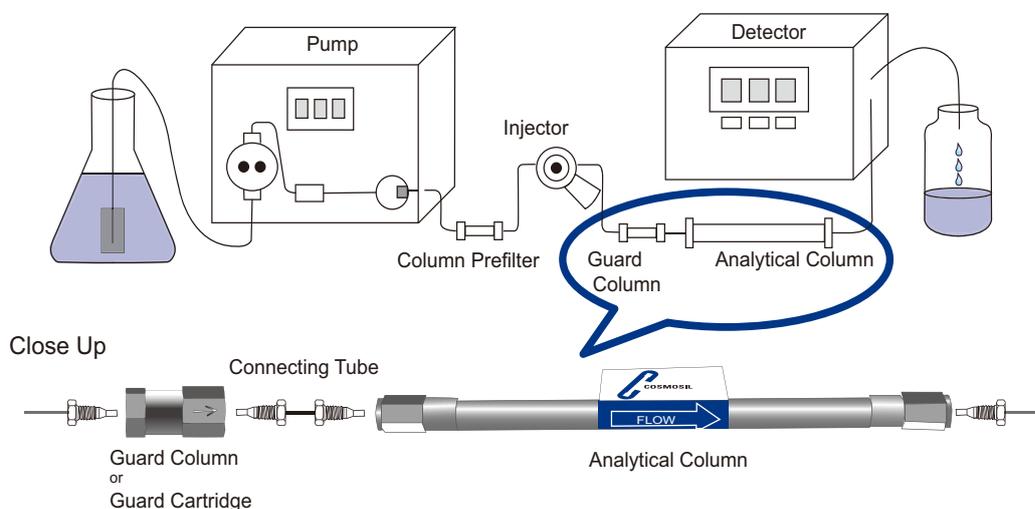
Structure of Cartridge



For more information on how to use the guard cartridge, see the attached instruction manual.

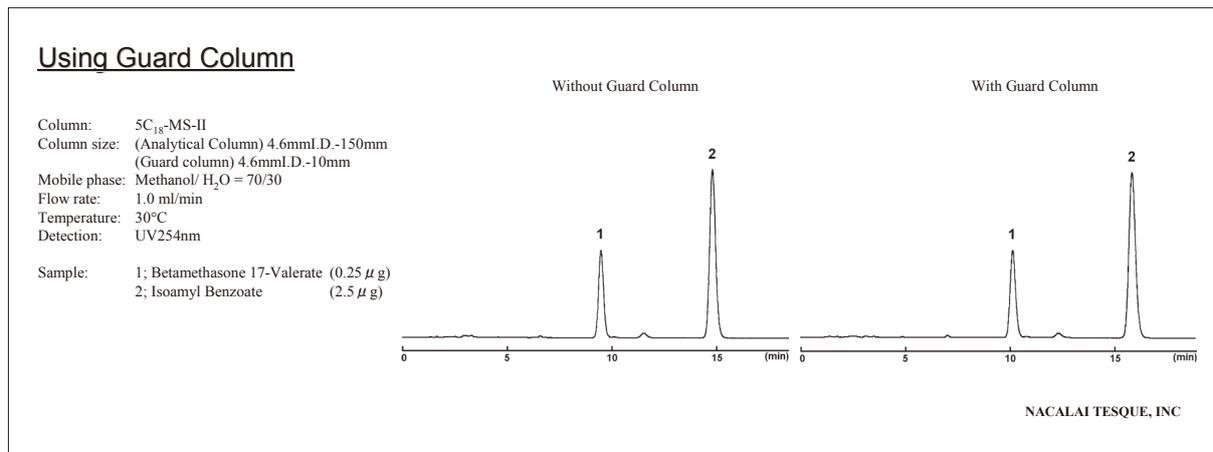
### Connection to Guard Column

Use COSMOSIL column connecting tube (product no. 37843-69).



## Example of Using Guard Column

The following chromatograms show the use of a COSMOSIL 5C<sub>18</sub>-MS-II analytical column (4.6 mm I.D. × 150 mm) and the same column connected with its guard column (4.6 mm I.D. × 10 mm). There is no difference in separation characteristics, since the packing material is identical in both the guard column and the main column.



## Replacing Guard Column

The following chromatograms show peak shape and performance recovered by replacing a deteriorated guard column with a new one. When pressure increases, ghost peaks appear, or the base line shifts, promptly replace the guard column with a new one. Continued use of a deteriorated guard column can result in premature deterioration of the main column.

