

## Shipping Solvent Handling Precautions

|                      |                                       |   |
|----------------------|---------------------------------------|---|
| First Aid            | Inhalation                            | <ul style="list-style-type: none"> <li>• Move the person to an area with fresh air. Immediately rinse mouth with excess with water.</li> <li>• Call for medical attention as soon as possible.</li> </ul> |
|                      | Skin exposure                         | <ul style="list-style-type: none"> <li>• Wash exposed area with plenty of soap and water.</li> </ul>  |
|                      | Eye Exposure                          | <ul style="list-style-type: none"> <li>• Open eyes as wide as possible and wash with clean water for at least 15 minutes.</li> <li>• Immediately call for medical attention.</li> </ul>                   |
|                      | Ingestion                             | <ul style="list-style-type: none"> <li>• Please wash mouth with excess water and immediately call for medical attention.</li> </ul>   |
| Handling and storage | Storage Temperature                   | <ul style="list-style-type: none"> <li>• Avoid storing this product at very low temperatures (<math>\sim 0</math> °C) to prevent product from freezing.</li> </ul>  |
|                      | Container Handling                    | <ul style="list-style-type: none"> <li>• Container may break if it is handled too roughly.</li> </ul>   |
|                      | Wear appropriate protective equipment | <ul style="list-style-type: none"> <li>• Use protective eyewear when using this product.</li> </ul>   |
| Waste Disposal       | Disposal methods                      | <ul style="list-style-type: none"> <li>• Dilute with large amounts of water. Incinerate and dispose of waste in accordance with all applicable regulations.</li> </ul>                                    |
|                      | General considerations                | <ul style="list-style-type: none"> <li>• Please pay attention to all safety precautions with respect to the handling and storage of this product.</li> </ul>  |

Shipping solvent of each column:

0.1 mol/L Phosphate buffer + 0.1 mol/L  $\text{Na}_2\text{SO}_4$  + 0.05 %  $\text{NaN}_3$  (pH 6.7)

## Packings Handling Precautions

|                      |                                       |   |
|----------------------|---------------------------------------|---|
| First Aid            | Inhalation                            | <ul style="list-style-type: none"> <li>• Move the person to an area with fresh air. Immediately rinse mouth with excess with water.</li> <li>• Call for medical attention as soon as possible.</li> </ul> |
|                      | Skin exposure                         | <ul style="list-style-type: none"> <li>• Wash exposed area with plenty of soap and water.</li> </ul>  |
|                      | Eye Exposure                          | <ul style="list-style-type: none"> <li>• Open eyes as wide as possible and wash with clean water for at least 15 minutes.</li> <li>• Immediately call for medical attention.</li> </ul>                   |
|                      | Ingestion                             | <ul style="list-style-type: none"> <li>• Please wash mouth with excess water and immediately call for medical attention.</li> </ul>   |
| Handling and storage | Ventilation                           | <ul style="list-style-type: none"> <li>• Provide adequate air ventilation.</li> </ul>   |
|                      | Wear appropriate protective equipment | <ul style="list-style-type: none"> <li>• Use protective eyewear and gas mask when using this product.</li> </ul>  |
| Waste Disposal       | Disposal methods                      | <ul style="list-style-type: none"> <li>• This product can be incinerated for easy disposal.</li> </ul>  |
|                      | General considerations                | <ul style="list-style-type: none"> <li>• Please pay attention to all safety precautions with respect to the handling and storage of this product.</li> </ul>  |

Flame-retarded packings (Modified silica gel)

TSKgel® G2000SW<sub>xL</sub>, G3000SW<sub>xL</sub>, G4000SW<sub>xL</sub>, G2000SW, G3000SW, G4000SW, G2000SW<sub>xL</sub> PEEK, G3000SW<sub>xL</sub> PEEK, G4000SW<sub>xL</sub> PEEK, SuperSW2000, SuperSW3000, SuperSW mAb HR, SuperSW mAb HTP, UltraSW Aggregate TSKgel guardcolumn SW<sub>xL</sub>, SW, SW<sub>xL</sub> PEEK, SuperSW, SuperSW mAb, UltraSW

Additional Information related to the TSKgel SW Type

Instruction Manual for  
semi-micro column TSKgel SuperSW3000 (2.0 mmID × 30 cm, 1.0 mmID × 30 cm),  
TSKgel SuperSW mAb HR, TSKgel SuperSW mAb HTP, TSKgel UltraSW Aggregate

To help protect your property from potential damage, please read this manual thoroughly before using the product. In this additional information, section number was brought into line with the instruction manual "TSKgel SW type"

### 1. Introduction

Typical application fields of the columns described in this manual are as follows:

- Semi-micro column TSKgel SuperSW3000: Highly sensitive analysis
- TSKgel SuperSW mAb HR: Analysis of antibody (IgG) with high resolution
- TSKgel SuperSW mAb HTP: Analysis of antibody (IgG) with high throughput
- TSKgel UltraSW Aggregate: Analysis of protein aggregates

In this instruction manual, the different points with the other SW type columns are only written. Please refer to the instruction manual "TSKgel SW Type" about the point, which has not made mentioned.

### 3. Column Parts

\* For semi-micro column TSKgel SuperSW3000, TSKgel SuperSW mAb HR, TSKgel UltraSW Aggregate: Please refer to Fig. 2 in the instruction manual "TSKgel SW type"

\* For TSKgel SuperSW mAb HTP

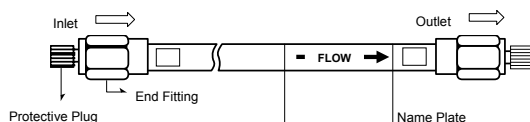


Fig. 2-1 (Additional) Column Parts for TSKgel SuperSW mAb HTP

### 4. Installation and Safety Considerations

#### 4.10 Long-Term Storage

Table 1 Recommended Flow Rate for Solvent Exchange

| Column Types             | Column Sizes<br>mm(ID)×cm(L) | Flow Rate     |
|--------------------------|------------------------------|---------------|
| TSKgel SuperSW3000       | 2.0×30                       | ≦ 15 μL/min   |
| TSKgel SuperSW3000       | 1.0×30                       | ≦ 4 μL/min    |
| TSKgel SuperSW mAb HR    | 7.8×30                       | ≦ 0.5 mL/min  |
| TSKgel SuperSW mAb HTP   | 4.6×15                       | ≦ 0.15 mL/min |
| TSKgel UltraSW Aggregate | 7.8×30                       | ≦ 0.5 mL/min  |

#### 4.11 Eliminate of particle contamination (Additional section)

The performance of semi-micro column easily goes down due to particle contamination. Therefore, it is highly recommended to use a line filter containing membrane of 0.2–0.5 μm in pore size between a pump and sample injector.

##### Line filter

Part No. 0014594 Filter assembly

Part No. 0006280 Fluoropore filter (0.45 μm, package of 100)

### 6. Solvents

#### 6.2 Solvent Selection

##### 6.2.3 Organic Solvents

TSKgel SuperSW mAb HR, TSKgel SuperSW mAb HTP, and TSKgel UltraSW Aggregate should be used with 0–20 % water-soluble organic solvents such as methanol and acetonitrile.

For information on how to replace the solvent, please refer to the Section 6 in the instruction manual "TSKgel SW Type"

## 7. Flow Rates

### 7.2 Recommended Flow Rates

Table 3 Recommended Flow Rates

| Column Types             | Column Sizes<br>mm(ID)×cm(L) | Recommended<br>Flow Rates | Max.<br>Flow Rates | Max. Pressure-<br>drops (MPa) |
|--------------------------|------------------------------|---------------------------|--------------------|-------------------------------|
| TSKgel SuperSW3000       | 2.0×30                       | 30~65 µL/min              | 75 µL/min          | 12.0                          |
| TSKgel SuperSW3000       | 1.0×30                       | 8~16 µL/min               | 20 µL/min          | 12.0                          |
| TSKgel SuperSW mAb HR    | 7.8×30                       | 0.5~1.0 mL/min            | 1.0 mL/min         | 12.0                          |
| TSKgel SuperSW mAb HTP   | 4.6×15                       | 0.10~0.35 mL/min          | 0.50 mL/min        | 8.0                           |
| TSKgel UltraSW Aggregate | 7.8×30                       | 0.5~1.0 mL/min            | 1.0 mL/min         | 12.0                          |

## 11. Guard Column

### 11.2 Type and Selection of Guard Columns

Table 4 Types and Guard Columns

| Part No. | Types                          | Column Sizes<br>mm(ID)×cm(L) | Applied Columns<br>mm(ID)×cm(L)   |
|----------|--------------------------------|------------------------------|-----------------------------------|
| 0022857  | TSKgel guardcolumn SuperSW mAb | 6.0×4                        | TSKgel SuperSW mAb HR (7.8×30)    |
| 0022858  | TSKgel guardcolumn SuperSW mAb | 3.0×2                        | TSKgel SuperSW mAb HTP (4.6×15)   |
| 0022859  | TSKgel guardcolumn UltraSW     | 6.0×4                        | TSKgel UltraSW Aggregate (7.8×30) |

## 13. Quality Specifications and Warranty

### 13.1 Inspection Data

#### 13.1.2 Flow Rates vs Column's ID

16 µL/min (for 1.0 mmID), 65 µL/min (for 2.0 mmID).

#### 13.1.3 Sample and their Concentrations for Inspection

Table 6 Samples for Inspection

| Samples                              | Concentrations <sup>*1</sup> | Concentrations <sup>*2</sup> |
|--------------------------------------|------------------------------|------------------------------|
| Thyroglobulin (Bovine Type I)        | 1.0 g/L                      | 0.50 g/L                     |
| γ-Globulin (Bovine Cohn Fraction II) | 2.0                          | 1.0                          |
| Ovalbumin                            | 2.0                          | 1.0                          |
| Ribonuclease-A (Bovine Pancreas)     | 3.0                          | 1.5                          |
| p-Aminobenzoic Acid                  | 0.02                         | 0.01                         |

Note: \*1 For TSKgel SuperSW3000 (2.0 mmID × 30 cm, 1.0 mmID × 30 cm).

\*2 For TSKgel SuperSW mAb HR, TSKgel SuperSW mAb HTP, and TSKgel UltraSW Aggregate.

#### 13.1.4 Sample Volume vs Column's ID

0.2 µL (for 1.0 mmID), 1.0 µL (for 2.0 mmID).

#### 13.1.5 Detector

UV detector (response: 0.3 sec, cell: capillary cell (35 nL)) for 1.0 mmID., 2.0 mmID;

UV-8020 (made by TOSOH) for 4.6 mmID, 7.8 mmID. Wavelength: 280 nm for all columns.

## 13.2 Quality Specifications

Table 7

| Types                    | Part No. | Column Sizes<br>mm(ID)×cm(L) | N/Column | As      |
|--------------------------|----------|------------------------------|----------|---------|
| TSKgel SuperSW3000       | 0021485  | 2.0×30                       | ≧25,000  | 0.7~1.6 |
| TSKgel SuperSW3000       | 0021845  | 1.0×30                       | ≧18,000  | 0.7~1.6 |
| TSKgel SuperSW mAb HR    | 0022854  | 7.8×30                       | ≧30,000  | 0.8~1.4 |
| TSKgel SuperSW mAb HTP   | 0022855  | 4.6×15                       | ≧15,000  | 0.8~1.4 |
| TSKgel UltraSW Aggregate | 0022856  | 7.8×30                       | ≧35,000  | 0.8~1.4 |

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