

SHINWA EXPRESS *Information*

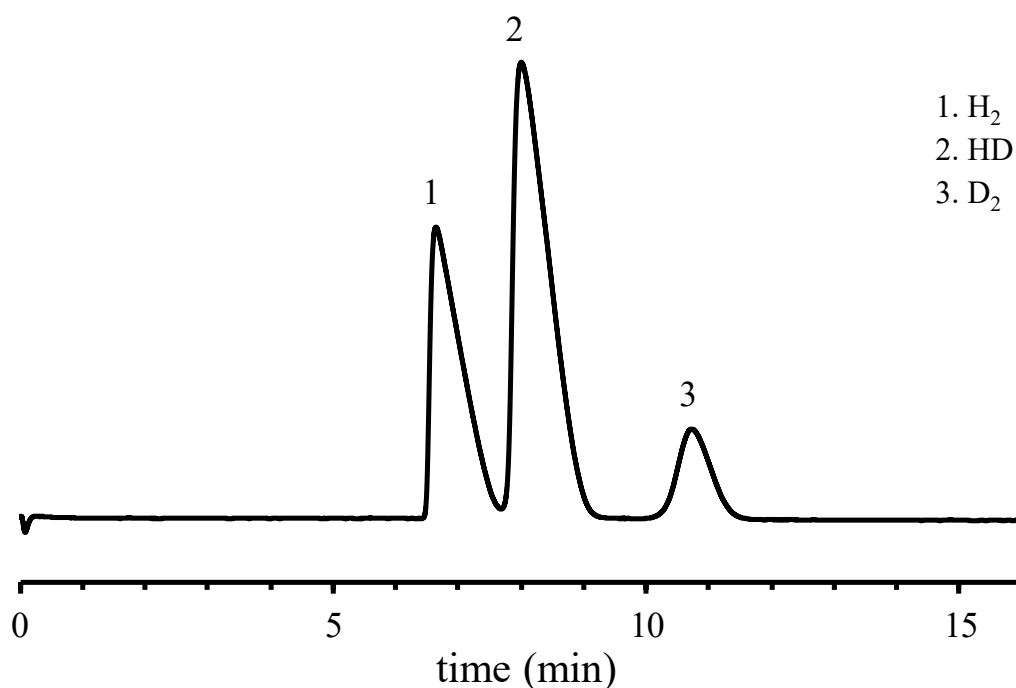
VOL. 8

Packed Column for Deuterium Analysis

Shinwa OGO-SP

Shinwa OGO-SP is a column that can separate hydrogen and its isotope, deuterium, using gas chromatography.

Under liquid nitrogen cooling conditions, it can effectively separate hydrogen (H_2), deuterium (D_2), and hydrogen-deuterium (HD).



Column: Shinwa OGO-SP 3.0 m x 3.0 mm I.D. SUS

Column temp.: -196°C (liquid nitrogen cooling)

Injection port temp.: 40°C

Detection: TCD 100°C

Carrier gas: 60 mL/min He

Sample vol.: 1.0 mL

■ Precautions ■

- ① Do not heat the column above 40°C . This may cause longer retention times of components, reduced peak response and shifting in peak elution time. If you are concerned about moisture adsorption, disconnect the column from the detector and flow dry nitrogen gas (flow rate: 30 mL/min for 3 mm I.D. columns, 15 mL/min for 2.2 mm I.D. columns) through the column for approximately 12 hours.
This operation should be performed at room temperature ($15\text{--}25^{\circ}\text{C}$).
- ② Ensure that the column joint connection is secure to prevent gas leakage. Even a small pressure drop due to leakage can cause instability in the baseline. If the column is not used for an extended period, plug it tightly appropriately to prevent moisture or oxygen from entering. Store it at room temperature in a dark place.



SHINWA CHEMICAL INDUSTRIES LTD.

50-2 Kagekatsu-cho, Fushimi-ku

Kyoto 612-8307 Japan

TEL: +81-75-621-2360 FAX: +81-75-602-2660

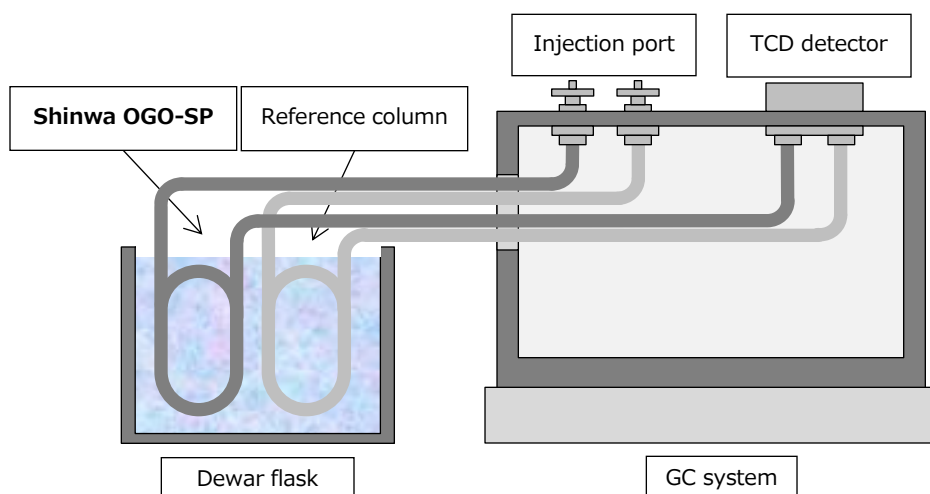
E-mail: info@shinwa-cpc.co.jp

Website: <https://shinwa-cpc.co.jp/en/>

■ Example of installation ■

【In the case of a multi-filament system (e.g. Shimadzu GC system)】

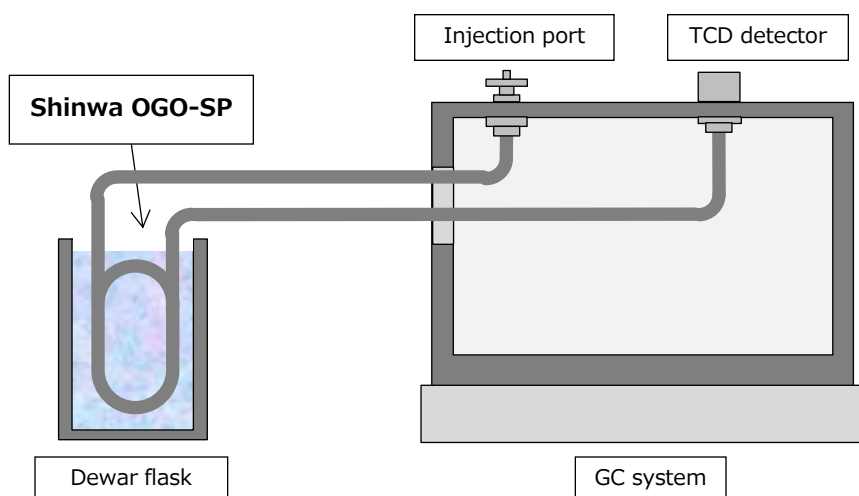
※ The below schematic diagram is for reference purpose only.



Note: In the case of a multi-filament TCD detector, in addition to the packed column for deuterium analysis, a reference column and connecting piping (e.g., GM-GF 2 x 1 mm I.D. 4 Nos) are required. For the reference column, we recommend "Shimalite Q". For a single-filament TCD detector, a reference column is not required.

【In the case of a single filament system (e.g., Agilent GC system)】

※ The below schematic diagram is for reference purpose only.



Note: In case of a single-filament TCD detector, in addition to the packed column for deuterium analysis, connecting piping (e.g., Reducing union 2 pcs, Ferrules and nuts 2 pcs each, Connecting piping 1000 mm x 0.5 mm I.D. x 2.0 mm O.D. 2 Nos) is required.

If you have any questions, please contact our representative.

■ References ■

- T. Matsumoto, T. Nagahama, J. Cho, T. Hizume, M. Suzuki, and S. Ogo, *Angew. Chem. Int. Ed.* 2011, 50, 10578-10580
 T. Matsumoto, K. Kim, and S. Ogo, *Angew. Chem. Int. Ed.* 2011, 50, 11202-11205
 D. Inoki, T. Matsumoto, H. Nakai, and S. Ogo, *Organometallics* 2012, 31, 2996-3001
 S. Eguchi, K.-S. Yoon, and S. Ogo, *J. Biosci. Bioeng.* 2012, 114, 479-484
 S. Ogo, K. Ichikawa, T. Kishima, T. Matsumoto, H. Nakai, K. Kusaka, and T. Ohhara, *Science* 2013, 339, 682-684.

■ Analytical column specifications ■

Product name	Material	Column dimensions Length x I.D. (mm)
Shinwa OGO-SP *	SUS	3.0 x 3.0

*This product is with standard data.

Please be aware that specifications and prices are subject to change without prior notification.