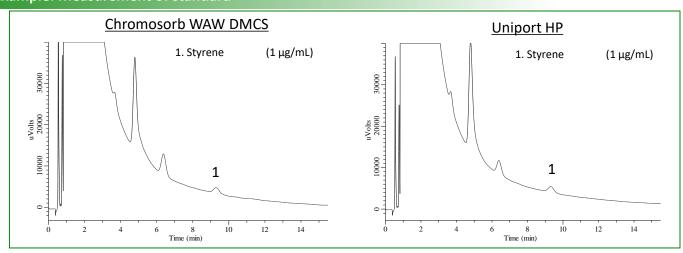
Purity Test of Calcium Polystyrene Sulfonate, with reference to the Japanese Pharmacopoeia, 16th Edition - Comparisons of Chromosorb Series and Uniport Series of Siliceous Soil Support

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GL Sciences Inc.

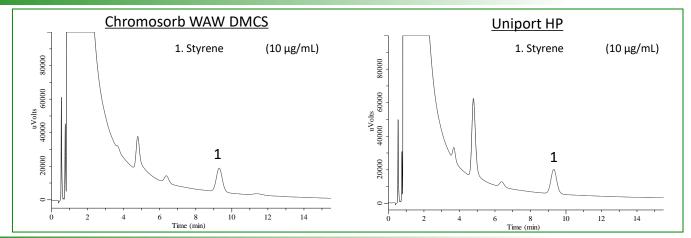
Calcium polystyrene sulfonate is used as a cardiovascular drug. It reduces potassium in the blood and is used to treat hyperkalemia caused by kidney failure. In this study, a packed column was used for analysis with reference to purity test (4) described in the Japanese Pharmacopoeia, 16th edition.

Chromosorb series and Uniport series siliceous earth carriers were evaluated and compared. This report demonstrates that both supports satisfy the requirements of the test method.

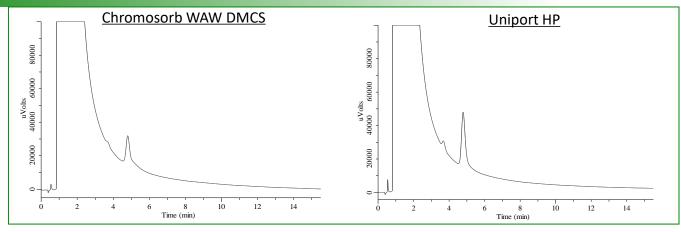
Example: Measurement of standard



Example: Measurement of performance test standard of the system



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Measurement conditions

Conditions

System : GC - FID
Column : PEG 20M 15 %

Chromosorb WAW DMCS 80/100

Uniport HP 80/100

SUS 2 m x 3 mm I.D.

Col. Temp. : 90 °C

Carrier Gas : N₂ 180 kPa

Injection : Direct

250 °C

Injection Vol. : 5 μL

Detection : FID Auto Range

250 °C

Sample : Standard

Analyte in Acetone

Measurement

Requirements for System Suitability

- 1. When the test is made with the system performance test standard, the number of theoretical plates and symmetry factor of the styrene peak are not less than 800 and 0.8 to 1.2, respectively.
- 2. When the test is repeated 6 times with the test standard, the relative standard deviation of the peak height of styrene is not more than 5%.



Results

Table 1. System performance test results

	Chromosorb WAW DMCS	Uniport HP
Number of theoretical plates	3502	3715
Symmetry factor	1.05	1.05

Table 2. System repeatability test results

	Chromosorb WAW DMCS	Uniport HP
1	1455	1419
2	1409	1400
3	1439	1473
4	1360	1441
5	1398	1361
6	1450	1397
Mean	1419	1415
Standard deviation	36.5	38.8
Relative standard deviation (%)	2.58	2.74

Introduction of diatomaceous earth carriers

The Japanese Pharmacopoeia contains several tests: "Siliceous earth packings for gas chromatography with XXX% liquid phase." The two most commonly used diatomaceous earth carriers that were used in these tests are described here.

Uniport series

Uniport B (sintered after washing + acid-treated product)

Special treatment removes metals from the surface of the support, making it easy to use without catalytic activity.

It can be used with a wide range of liquid phases as well as polyglycols and polyesters.

Uniport HP (sintering, acid treatment, and silane treatment after washing)

Uniport B is specifically silanized. It is the most inert carrier for silanization.

It has good compatibility with silicon systems and is suitable to the sample that is easy to adsorb and disassemble.

Chromosorb series

Chromosorb WAW (sintered after washing + acid-treated product)

Chromosorb WAW DMCS (sintered after washing + acid treatment + silane treatment)

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GL Sciences, Inc. Japan

22-1 Nishishinjuku 6-Chome Shinjuku-ku, Tokyo, 163-1130, Japan Phone: +81-3-5323-6620 Fax: +81-3-5323-6621

Email: world@gls.co.jp
Web: www.glsciences.com

GL Sciences B.V.

De Sleutel 9 5652 AS Eindhoven The Netherlands

Phone: +31 (0)40 254 95 31 Email: <u>info@glsciences.eu</u> Web: www.glsciences.eu

GL Sciences, Inc. USA

4733 Torrance Blvd. Suite 255 Torrance, CA 90503 Phone: 310-265-4424 Fax: 310-265-4425

Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

GL Sciences (ShangHai) Ltd.

Tower B, Room 2003, Far East International Plaza, NO,317 Xianxia Road, Changning District.

Shanghai, China P.C. 200032
Phone: +86 (0)21-6278-2272
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn



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