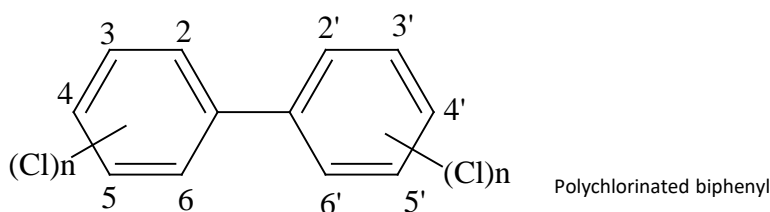


PCB analysis in river water, groundwater, sewage effluent, and test solutions eluted from soil has been studied using GC/ECD after solvent extraction with *n*-hexane and purification with a silica gel column. However, since this solvent extraction method is a long and complicated operation, a solid-phase extraction method that offers a simple and efficient extract with few solvents has recently been developed and is described in this application note.

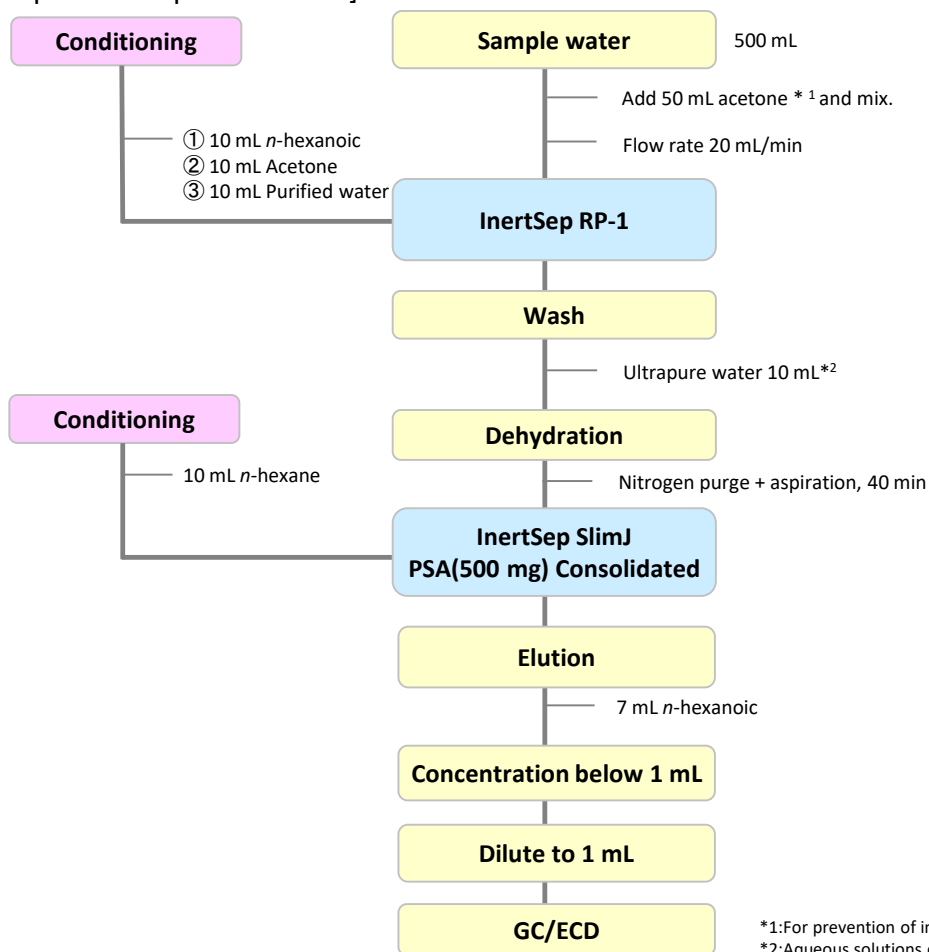
1. Flow diagram of solid phase pretreatment

[Structural formula of PCB]



Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.

[Example of PCB pretreatment]



*1: For prevention of internal adsorption to the container

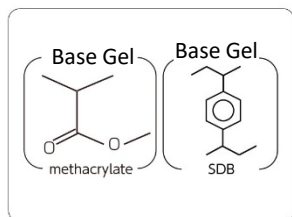
*2: Aqueous solutions containing organic solvents are used as necessary.
The ratio of organic solvents needs to be studied in advance.

NOTE) This is a method developed by GL Sciences based on literature information.

Reference: Solid Phase Extraction Guidebook Solid Phase Extraction Seminar Materials Environmental Fields Ver. 5, p73 (2004)

2. Products for solid-phase extraction

[InertSep RP-1]



Mean particle size : 70 μm
 Surface Area : 650 m^2/g
 Pore volume : 1.5 mL/g
 Pore size : 90 \AA
 PH range of use : 1 - 14

InertSep RP 1 is a polymeric SDB and methacrylate based solid phase . It is optimal for enrichment of a wide range of compounds from low to medium high polarity.

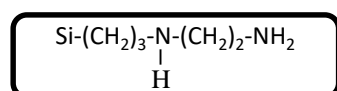
Syringe barrel type cartridge

Product name	Column size	Qty.	Cat.No.
InertSep RP-1	250 mg/6 mL	30 bottles	5010-27000

Luer device cartridge

Product name	Column size	Qty.	Cat.No.
InertSep mini RP-1	230 mg	50 bottles	5010-27200
		500 bottles	5010-27220

[InertSep PSA]



Mean particle size : 65 μm
 Carbon : 11.5 %
 Surface Area : 450 m^2/g
 Pore volume : 0.7 mL/g
 Pore size : 60 \AA
 Ion exchange capacity : 1.5 meq/g
 PKa : (10.1, 10.9)
 PH range of use : 2 - 8

InertSep PSA is a solid phase in which an ethylenediamine N propyl group is attached to silica gel. As a primary interaction, it has an anion exchange mode, and as a secondary interaction it has a weak non-polar mode.

Luer device cartridge

Product name	Column size	Qty.	Cat.No.
InertSep SlimJ PSA	500 mg	50 bottles	5010-65620

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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@glsc.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: info@glsciences.eu
 Web: www.glsciences.eu

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

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

International Distributors

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