

Whatman Phase Separation Microplate

General Description

In many applications in solubility and separation the material of interest appears at the solvent interface. Often the only way to successfully clean up and separate out a mix of components is to use this methodology.

The problem has always been how to remove the material from the interface, this has, in the past, been a manual process and involves close contact with the solvents and extract material.

The Whatman Phase Separation Plate is a unique way to separate halogenated solvents from an aqueous phase, quickly, in a multiwell format with no carry over and no close manual contact.

The plate consists of a 2ml 96 well rigid glass filled polypropylene body for toughness and automation. It has long drip directors to ensure that you have accurate dispensing of the filtrate. The media contained in the microplate is the unique Whatman 1PS which is sealed into each well.

Whatman 1PS is a silicone treated media which remains impervious to aqueous solvents but allows the unimpeded passage of organic solvents. Providing that the solvent layer is in contact with the 1PS the solvent layer will elute until it comes to the interface where it will stop automatically even if a vacuum is being applied.

Halogenated solvents are typically used in metabolic studies, biochemical extractions and in bioavailability studies. Halogenated solvents are typically of higher density than an aqueous phase and are thus ideal for the application.

Technical Data

We performed an internal study on the effectiveness of 1PS media using an aqueous soluble dye, Ponceau S and two halogenated solvents Dichloromethane and Chloroform. The Ponceau S dye was made up into a 0.02% solution in both 1M HCl and 1M NaOH.

A standard curve was constructed and the OD max was taken in both of the Dye solutions and against the blank readings in all cases. Next 2.5ml of each solvent and each aqueous phase were mixed by vortexing for 10 seconds and then immediately applied to the 1PS media and separation allowed to occur by gravity.

After the obvious end point the organic solvents were measured at the appropriate OD max (Blank Subtracted) and it was found that there was negligible absorbance irrespective of the described organic solvents or of the aqueous solute. Because none of the highly optically absorbent dye appeared in the organic filtrate we can confirm complete separation of the two phases.

Order Information		
Description	Units/Case	Catalogue Number
Phase Separation Plate 96 wells / 2ml	1	7720-7229-01
Collection Plate 96 wells / 750µl	25	7701-5750
Collection Plate 96 wells / 2000µl	25	7701-5200
UniVac 3 -Vacuum Manifold	1	7705-0102

If there are any questions regarding these products, a variation of these products or any Whatman products, please contact our Technical Service Department.