

Work-up Products

TELOS®

Phase Separator Columns and Plates

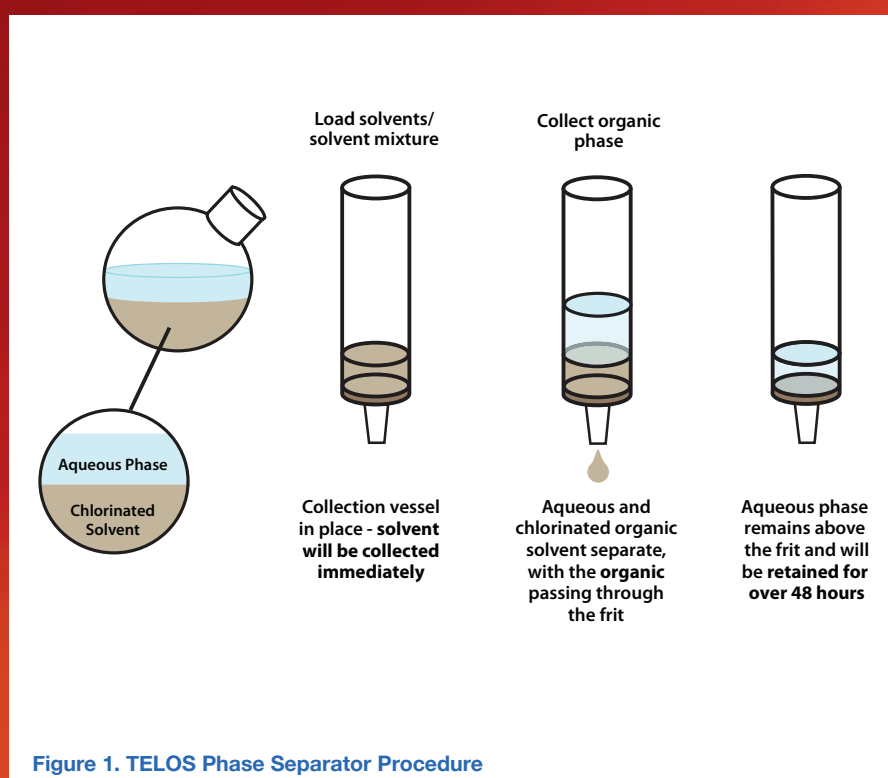
Introduction

Liquid-liquid extraction is a commonly performed work-up technique following organic synthesis, where compounds partition from one solvent to the other based on solubility. The traditional approach is to add water immiscible and aqueous solvents to a separating funnel, shake and then allow the two liquids to separate. The bottom layer is run off and repeat extractions performed where necessary. Each liquid-liquid extraction necessitates the use of clean glassware for each separate extraction.

TELOS® Phase Separator Columns and Plates

TELOS® Phase Separators increase productivity and remove the need for repeated washing and drying of glassware. The product allows the partition of chlorinated and aqueous solvents using a filtration system to separate the immiscible phases. The two solvents are applied to the column and within a few seconds the chlorinated solvent passes into the collection vessel, while the aqueous layer remains in the TELOS Phase Separator Column.

A proprietary hydrophobic frit allows the chlorinated solvent to pass through under gravity to the collection vessel. As soon as the aqueous layer reaches the frit, the flow stops, separating the two solvents.



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Procedure

1. Select the appropriate column that will hold the total volume of both the organic and aqueous solvents, e.g. for 20ml combined volume, use the TELOS Phase Separator, 25ml Column.
2. Ensure a collection vessel is placed beneath each TELOS Phase Separator Column.
3. Add the two solvents or solvent mixture to the TELOS Phase Separator Column.
4. After a few seconds the water immiscible solvent will start to pass through the frit – the process occurs under gravity. There is no need to apply a vacuum.
5. The water immiscible solvent is collected in a suitable vial or test tube (collection plate for 96-well format).
6. The aqueous layer will not pass through the frit. The column can be left for more than 48 hours without any aqueous breakthrough.

N.B. The process is performed under gravity. Vacuum or positive pressure should not be used.

Additional Information

Common solvents which can be separated from aqueous solutions using TELOS Phase Separators include dichloromethane and chloroform.

The two solvents should form a two phase or biphasic system. The water immiscible solvent must have a greater density than water, i.e. form the lower layer.

For the most efficient partition of compounds from one solvent to the other, a liquid-liquid extraction should be performed prior to adding the two solvents to the TELOS Phase Separator.

If the aqueous solvent contains appreciable levels of a water miscible organic solvent, e.g. methanol, a two phase system may not be formed. In this case, the TELOS Phase Separator will not function correctly.

Part Number	Description	Pack Size
Columns		
950-0000-013T	TELOS Phase Separator, 6ml	100
950-0000-016T	TELOS Phase Separator, 15ml	100
950-0000-020T	TELOS Phase Separator, 25ml	100
950-0000-027T	TELOS Phase Separator, 70ml	50
950-0000-037T	TELOS Phase Separator, 150ml	25
96-well Plate		
950-0000-096P	TELOS Phase Separator, Fixed-well Plate	EACH

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