WebSeal Plates and Mats

Frequently Asked Questions

The Thermo Scientific™ WebSeal™ system is a comprehensive range of polypropylene well plates and seals that can be used for different types of analytical challenges and all types of chromatographic applications. For maximum solvent compatibility, a wide range of options for plates employing glass inserts are offered.

Visit **www.thermoscientific.com/webseal** for more information.

1. Have the plates been tested for evaporation?

Yes, and when sealed with a mat (NOT tape!), they seal as well as a vial with a snap cap, and in many cases as tight as a vial with a screw cap. Note: The WebSeal blue mats (shown at left) offer the best performance with regard to evaporation. The low cost Thermo Scientific™ MicroMat™ CLR products have slightly less sealing ability, and cost less.

2. Do we have compatibility tables for autosamplers?

Yes, there is a list of chromatography autosamplers that are compatible with microplates on the landing page for download (www.thermoscientific.com/webseal).

3. What are the temperature limits for the WebSeal microplate products?

Polypropylene microplates and silicone mats will tolerate exposure to temperatures as low as -80 °C. Polypropylene microplates and silicone mats will tolerate exposure to temperatures as high as 121 °C for up to 15 minutes for the purpose of sterilization. The upper temperature limit of these products for extended periods of time (up to 7 days of constant heating) is 100 °C.

4. Are these plates compatible with protein and bio analysis matrices?

If used as sample collection plates for peptides followed by Bio-LC or SEC then yes. If the final destination of the sample workflow is a HPLC system then these are valid product choices.

5. Are WebSeal products compatible with GC/MS?

When using polymeric sample containers for GC or GC/MS applications, is it always important to consider the impact of background extractables on the analysis. The WebSeal products have been extensively evaluated for premium performance with regard to purity. The conditions we used for creating extractable data (temperature, column, detector, sensitivity, etc.) are published on the landing page. Review of the chromatographic data will assist you in determining the suitability of specific products. In many cases, we can recommend our products for GC as well as HPLC applications. Most work has been to determine that the resins are chromatographically acceptable with MeOH, Acetonitrile and n-Heptane.

6. Will products from the previous brands like Chromacol, National Scientific, and SUN-SRi continue to be available?

No, we will discontinue the Chromacol™, National Scientific™ and SUN-SRi™ portfolio and continue long term with the new Thermo Scientific portfolio. A discontinuation plan has been put together and suitable substitutes for each of the old products can be found within the new product offering.

7. Is there a discontinuation list available?

Yes, there is a change note with a list of discontinued items and a discontinuation time line.

8. Is a cross-reference file available?

Please see the landing page for the cross-reference tool. This tool references old to new catalog numbers.

9. Can these products be used on automated liquid handling systems such as: Tecan, Hamilton, etc.?

The WebSeal microplate products adhere to the SBS microplate formats. Tecan®, Hamilton®, Gilson®, PerkinElmer® instruments can be used within the instrument guidelines.

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10. Will standard plates bleed when used with organic solvents, or should certified plates be purchased?

Bleed is a somewhat subjective term which normally implies a constant loss of material from the column or separation system. This leads to high background levels, increased noise and loss of sensitivity. We have evaluated the plastic resins used in the production of these plates by extraction of leachable components with organic solvents associated with HPLC and GC operation, e.g. methanol, acetonitrile, and hexane.

We found low levels of a few extractables when tested at the highest instrument sensitivity range. The extractables found are characteristic of the common materials used for microplates in the clinical market and plates that have been used for general purpose chromatography applications. The low levels of background extractables found during our testing indicates, that for many non-critical applications, and with higher concentrations of sample, the standard quality plates will be more than acceptable. Applications that run at more sensitive instrument settings or where higher purity of the plate is required, should be directly switched to the certified plates as they are the lowest bleeding PP plates currently available on the world market today.

11. How do the WebSeal Certified low bleed plates compare to others?

Plates are manufactured by injection molding. In order to "force" the ready-produced plate to come out of this mold for the next shot, some manufacturers use release agents (organic compounds that act as lubricants). These release agents could be found in your chromatogram. The grade of polypropylene used by most plate manufacturers can contain monomers or other added ingredients that are susceptible to leaching on contact with organic solvents. The certified products are manufactured from high purity resins and use a process that does not require mold release agents; this is why they exhibit no significant background extractables.

12. How do the Plate+ products compare to standard and certified products?

The Thermo Scientific™ Plate+™ coating provides additional surface protection that further reduces the possibility of interactions with solvents, sample components or other materials. Plate+ microplates display ultra low background extractable organics profiles with low background noise that compare favorably to our Mass Spec Certified Vial products.

13. What is the best way to seal the Level 3 plates (Plate+ or plates with glass inserts) that need to be incubated at elevated temperatures?

These plates (Plate+ or plates with glass inserts) should never be sealed with tapes or adhesive foils, the PTFE coated silicone mats are the right choice here. The glass inserts are sealed with silicone plug mats or individual caps. These plates were originally designed for combinatorial chemistry techniques with in situ chemical derivatization. The materials are similar to those used in GC and LC derivatization products such as the Thermo Scientific™ Reacti-Vials™.

14. Are bar coded plates available?

Yes, plates can be provided with a pre-printed adhesive label applied. Contact your sales representative for assistance in completing a form where the customer can define the barcode information and location where it should be applied on the plate. Additional information required includes the physical requirements for the label such as: temperature stability, solvent stability, etc.

Please contact Detlev Lennartz, Product Manager for any additional questions at detlev.lennartz@thermofisher.com

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