Thermo Scientific Dionex ASE Extraction Thimbles

Filters and thimbles for Thermo Scientific™ Dionex™ ASE™ Extraction cells are used when extracting complex matrices, to prevent plugging and maximize separation of the solvent extract.

Extraction thimbles for the Dionex ASE extraction cells are used to hold solid and semi-solid samples when extracting analytes from complex matrices during accelerated solvent extraction technique, to prevent plugging of the fluid path. Additionally, extraction thimbles are used in the fields of air and waste gas analysis for collecting solid particles (dust). The thimbles are optimized in dimensions to the Dionex ASE extraction cells with tested mechanical strength and temperature stability when used with the Thermo Scientific™ Dionex™ ASE™ Accelerated Solvent Extraction systems. The Dionex ASE extraction thimbles are available in cellulose and glass fiber material and can be used to

- Make cell cleaning easier when extracting samples
  – That melt at high temperatures
  – That stick to the walls of the cell (e.g. polymer samples)
- Weigh samples directly into the thimbles to avoid sample loss during transfer
- Thimbles can also act as an additional filter when working with fine particulate samples that can clog the cell

Cellulose extraction thimbles are made from high alpha cellulose and have excellent mechanical strength and retention, and the high purity of the material gives reliable and reproducible analytical results. The dimensions of the thimbles are accurately matched to the Dionex ASE extraction cells to ensure an optimum fit during accelerated solvent extraction.

Glass fiber thimbles are made from high purity borosilicate glass fibers, completely free of binders and additives and can be used at temperatures up to 500 °C or when using solvents incompatible with cellulose thimbles.

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Specifications

Table 1. Dionex ASE 150/350 cellulose thimbles.

Description of Extraction Thimble	Internal Diameter	External Height	Wall Thickness
10 mL Dionex ASE 150/350 Cellulose	12 mm +0/-2.0 mm	50 mm ± 1 mm	1.5 mm ± 0.5 mm
22 mL Dionex ASE 150/350 Cellulose	20 mm +0/-2.0 mm	50 mm ± 1 mm	1.5 mm ± 0.5 mm
34 mL Dionex ASE 150/350 Cellulose	25 mm +0/-2.0 mm	50 mm ± 1 mm	1.5 mm ± 0.5 mm
66 mL Dionex ASE 150/350 Cellulose	25 mm +0/-2.0 mm	100 mm ± 1 mm	1.5 mm ± 0.5 mm
100 mL Dionex ASE 150/350 Cellulose	25 mm +0/-2.0 mm	150 mm ± 1 mm	1.5 mm ± 0.5 mm

Table 2. Dionex ASE 150/350 glass fiber thimbles.

Description of Extraction Thimbles	Internal Diameter	External Height	Wall Thickness	Temperature
10 mL Dionex ASE 150/350 Glass Fiber	12 mm ± 1 mm	50 mm ± 1 mm	2.0 mm ± 0.5 mm	MAX 500 °C
22 mL Dionex ASE 150/350 Cellulose	19 mm ± 1 mm	50 mm ± 1 mm	2.0 mm ± 0.5 mm	MAX 500 °C
34 mL Dionex ASE 150/350 Cellulose	24 mm ± 1 mm	50 mm ± 1 mm	2.0 mm ± 0.5 mm	MAX 500 °C
66 mL Dionex ASE 150/350 Cellulose	24 mm ± 1 mm	100 mm ± 1 mm	2.0 mm ± 0.5 mm	MAX 500 °C
100 mL Dionex ASE 150/350 Cellulose	24 mm ± 1 mm	150 mm ± 1 mm	2.0 mm ± 0.5 mm	MAX 500 °C

Results from a GC-MS Analysis of Thimbles Extracts to Check for Interfering Contaminating Peaks

The thimbles were extracted with different solvents using the following Accelerated Solvent Extraction Technique Parameters.

ASE Conditions	
Oven Temperature:	100 °C
Pressure:	1500 psi
Oven Heatup Time:	5 min
Static Time:	5 min
Static Cycles:	1
Rinse Volume:	50%
Solvents Tested:	Hexane/Acetone (1:1, v/v) Dichloromethane Dichloromethane/Acetone (1:1, v/v)

Analysis of the extracts were done by GC-MS using the following Instrumentation

- GC – Thermo Scientific™ TRACE™ 1300 GC Ultra
- Injector – PTV
- Detector – Thermo Scientific™ ISQ™ Series Quadrupole GC-MS

Results from Hexane/Acetone Extractions of the Cellulose and Glass Fiber Thimbles

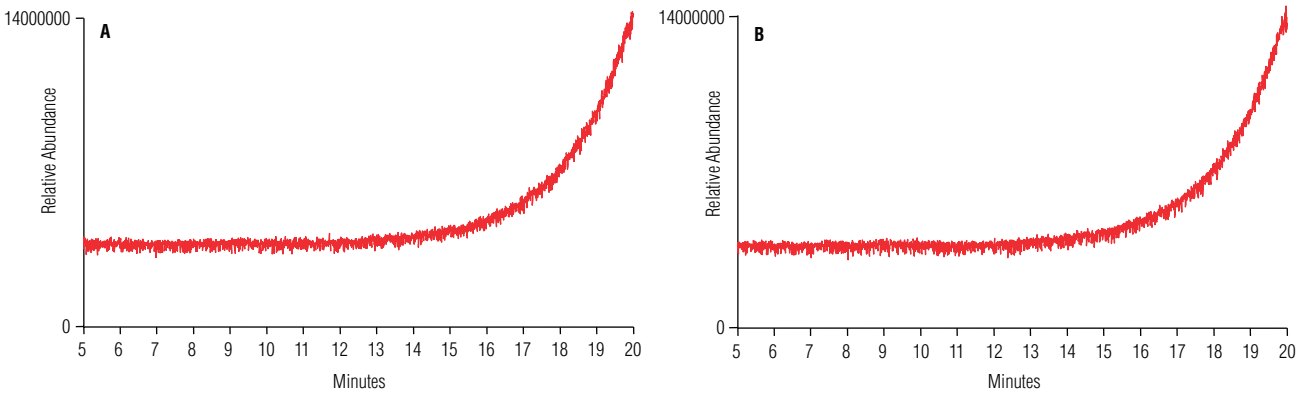

Figure 1. GCMS analysis of (A) Cellulose thimbles and (B) Glass Fiber thimbles using Hexane/Acetone as the extraction solvent (Data Courtesy of Ekong Bassey and Hua Yang).

Results from Dichloromethane Extractions of the Cellulose and Glass Fiber Thimbles

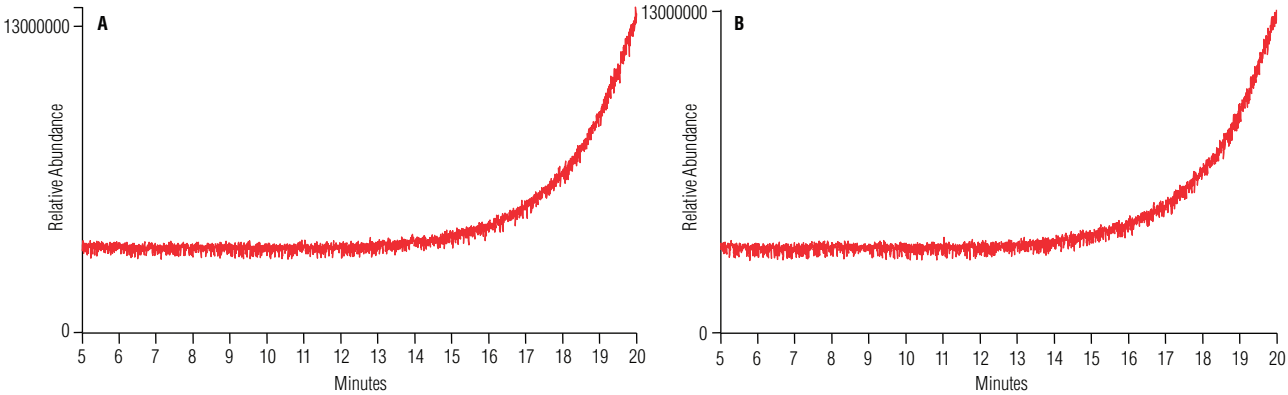

Figure 2. GCMS analysis of (A) Cellulose thimbles and (B) Glass Fiber thimbles using Dichloromethane as the extraction solvent (Data Courtesy of Ekong Bassey and Hua Yang).

Results from Dichloromethane/Acetone Extractions of the Cellulose and Glass Fiber Thimbles

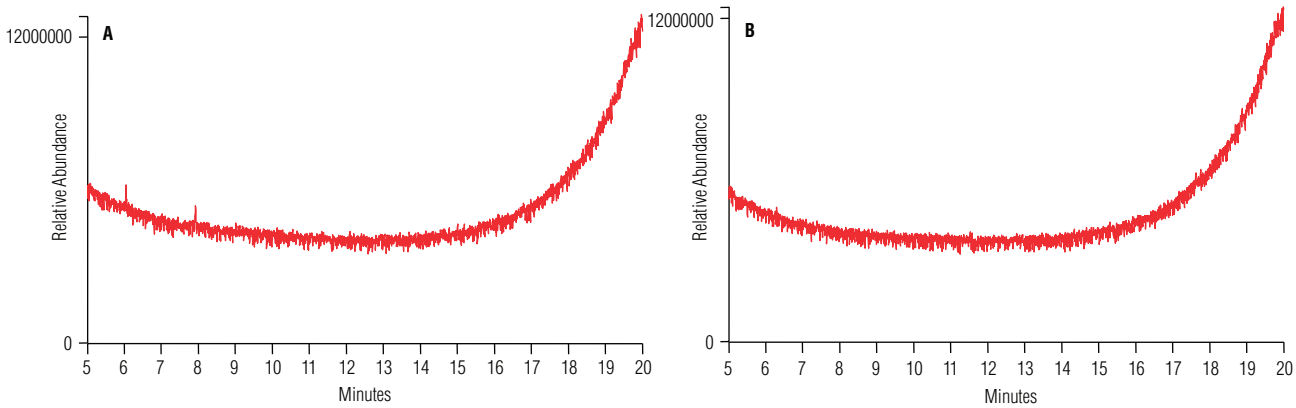

Figure 3. GCMS analysis of (A) Cellulose thimbles and (B) Glass Fiber thimbles using Dichloromethane/Acetone as the extraction solvent (Data Courtesy of Ekong Bassey and Hua Yang)

The results with all three solvents show no contamination peaks that could interfere with the analysis.

Ordering Information for Thimbles and Other ASE 150/350 Consumables

In the U.S., call (800) 346-6390 or contact the Thermo Fisher Scientific Regional Office nearest you. Outside the U.S., order through your local Thermo Fisher Scientific office or distributor. Refer to the following part numbers.

Product Description	Part Number
Dionex ASE Prep Florisil Cartridges, 6 mL, 500 mg Resin, 30 Pack	088428
Dionex ASE Prep Alumina Neutral Cartridges, 6 mL, 500 mg Resin, 30 Pack	088430
Dionex ASE Prep Alumina Base, 6 mL, 500 mg Resin, 30 Pack	088434
Dionex ASE Prep Alumina Acid Cartridges, 6 mL, 500 mg Resin, 30 Pack	088433
Dionex ASE Prep MAP, Moisture Absorbing Polymer 200 g	083475
Diatomaceous Earth Dispersant for ASE, 1 kg Bottle	062819
Dionex ASE Prep CR, Na Form, Mineral Acid Neutralizer, 500 g	080024
Dionex ASE Prep CR H+ Form, Mineral Base Neutralizer, 400 g	071397
Thimbles Cellulose, 10 mL Dionex ASE 350 Cell	088345
Thimbles, Glass Fiber, 10 mL Dionex ASE 350 Cell	088346
Thimbles, Cellulose, 22 mL Dionex ASE 350 Cell	088347
Thimbles, Glass Fiber, 22 mL Dionex ASE 350 Cell	088348
Thimbles, Cellulose, 34 mL Dionex ASE 350 Cell	088349
Thimbles, Glass Fiber, 34 mL Dionex ASE 350 Cell	088350
Thimbles, Cellulose, 66 mL Dionex ASE 350 Cell	088351
Thimbles, Glass Fiber, 66 mL Dionex ASE 350 Cell	088352
Thimbles, Cellulose, 100 mL Dionex ASE 350 Cell	088353
Thimbles, Glass Fiber, 100 mL Dionex ASE 350 Cell	088354
Glass Fiber Filters for 1, 5, 10 or 22 mL Cells, Pkg of 100, Dionex ASE 150/350	068092
Cellulose Filters for 1, 5, 10 or 22 mL Cells, Pkg of 100, Dionex ASE 150/350	068093
Filters, Cellulose for 34, 66 or 100 mL Cells, Pkg of 100, Dionex ASE 150/350	056780
Filters, Glass Fiber, for 34, 66, or 100 mL Cell, Pkg 0f 100, Dionex ASE 150/350	056781

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