

Case Study

Enhance PCB recoveries for EPA Method 8082



Customer: Accutest Laboratories, Dayton, NJ, USA

Accutest Laboratories is a nationwide environmental testing laboratory that has successfully delivered defensible data for over 55 years. Founded in 1956, Accutest is one of the nation's largest environmental testing laboratories combining advanced technology and experienced personnel to deliver "Total Performance You Can Count On."

Application: EPA Method 8082 - testing for polychlorinated biphenyls (PCBs)

Method 8082 is used to determine the concentrations of polychlorinated biphenyls (PCBs) as Aroclors or as individual PCB congeners in extracts from solid and aqueous matrices. Open-tubular, capillary columns are employed with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD). Due to the testing limits and the detector, a hexane exchange step must be applied.

Equipment: The Syncore® Analyst R-12 with Flushback Module, V-700 Vacuum Pump, V-855 Vacuum Controller and F-108 Recirculating Chiller

The Syncore® Analyst is a vortex evaporator that concentrates solvents under vacuum. Applying a reduced pressure to the system causes the manipulation of a solvent's boiling point, allowing for the solvent to be evaporated at a much more gentle temperature. Analyte recoveries are considerably high for EPA methods that require a hexane exchange due to Syncore® vortex movement, which keeps the analytes dispersed inside the solvent mixture. Equipped with a unique Flushback module, which continuously rinses down the glass vessels, analyte recoveries for the most volatile PCBs are >85%.

Benefit / Conclusion: High analyte recovery for PCB's in hexane

The Syncore® Analyst is a user friendly system that surpasses other evaporation systems that are on the market today. It has the ability to produce excellent solvent recovery in a timely fashion while dealing with solvents having a wide range of boiling points (i.e. hexane which is used as a solvent in Method 8082). It also allows you to increase laboratory production by accommodating more samples than previously used solvent recovery methods.

"If you're looking to take your laboratory to a better level of quality, efficiency, and environmental friendliness, the Syncore® Analyst is the way to go."

Lionel Thomas, Laboratory Manager - Accutest Laboratories
