

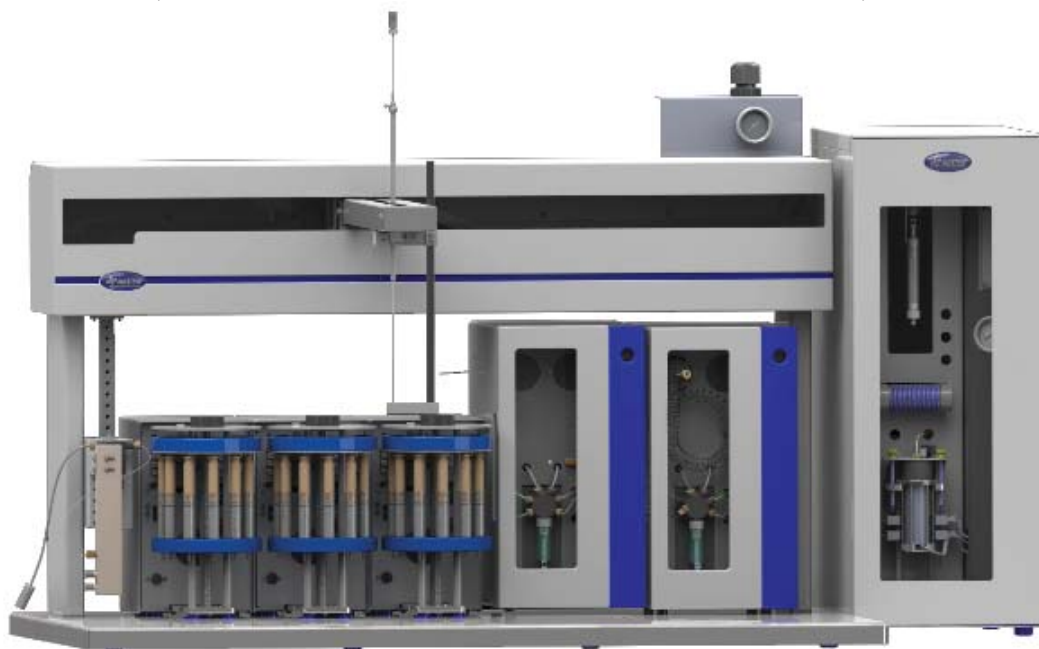
PREPLINC

Traditional Dioxin Cleanup

The PrepLinc™ Traditional Dioxin

Cleanup System from J2 Scientific automates the multi-step Dioxin cleanup procedure. PrepLinc™ SPEi column modules allow flow from column to column. Elutions can flow through, bypass or reverse elute through any column module. Fractions can be collected or transferred to the AccuVap™ for concentration.

Adding the AccuVap™ allows sample to be concentrated between steps so sorbent amounts can be decreased and columns are less expensive. The traditional method of Silica, Alumina and Carbon cleanup with the reverse elution of dioxin analytes to the AccuVap™ for initial concentration is completely automated with this configuration.



- Automates sample prep for EPA Methods 1613 and 8290
- Fractionate samples for the analysis of:
 - PCDDs PBDEs
 - PCDFs PAHs
 - PCBs BFRs
- SPE Columns from many manufacturers are compatible, even pack your own.

Cartridge Compatibility

Uses cartridges from 1 mL to 15 mL, plus many specialty and flash columns. Program multi-column methods, eluting directly from one column to the next.

Concentrate Between Steps

The AccuVap™ module provides the necessary sample concentration between each cleanup step to achieve unattended Dioxin sample preparation.

Reverse Elution

The only automated SPE system to offer reverse elution through any cartridge at any stage in the method.

Positive Pressure

The use of positive pressure sample injection and solvent elutions is precise and repeatable. Pressure monitoring protects samples & equipment.

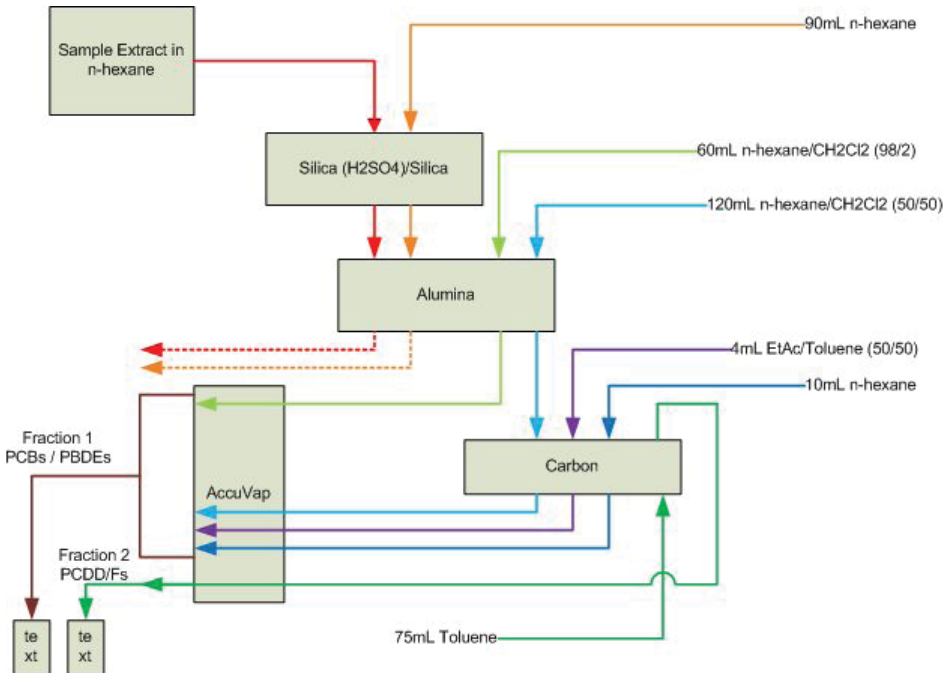
Elution Options

Programmable for flow through, bypass or reverse on each column module for each elution. Elute with one of 12 different solvents or solvent mixes.

J2 SCIENTIFIC

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Cleanup of various matrices for PCB, PBDE and PCDD/F compounds



This very complex process for cleanup of samples for analysis of PCBs, PBDEs, PCDDs and PCDFs can be accomplished in two SPEi methods using the PrepLinc™ software.

Method 1 is a 3-column method that injects the sample through the Silica (SPM1) and Alumina (SPM 2) columns, rinses interferences to waste and elutes the first fraction to the AccuVap™. The fraction is held in the chamber to be combined with the next elution.

The next set of elutions involves the Alumina (SPM 2) to the Carbon (SPM 3) columns and elutes analytes in three fractions to the chamber. The combined elutions are concentrated and transferred to a vial for analysis of the PCB and PBDE analytes.

Method 2 is a single column method in which Toluene is reverse eluted through the Carbon (SPM 3) column and sent to the AccuVap™ for concentration. The concentrated fraction is exchanged and transferred to a separate vial for analysis of PCDDs and PCDFs.

Method 1

| Operation | Values | Column 1 | Column 2 | Column 3 | Accuvap |
|------------------|--|----------|----------|----------|---------|
| Sample Injection | Pre-Air: 150 Sample: 5000 Overfill: 125 Post-Air: 650 Post Inject: 0 Asp: 5500 Dsp: 5500 | ✓ | ✓ | ✓ | ✓ |
| Elution | Volume:90000 Aspirate:30000 Dispense:7500 Solvent: F SPE Syringe Valve Hexane | ✓ | ✓ | ✓ | ✓ |
| Elution | Volume:60000 Aspirate:30000 Dispense:7500 Solvent: 5 SPE Solvent Select Valve 98:2 | ✓ | ✓ | ✓ | ✓ |
| Elution | Volume:100000 Aspirate:30000 Dispense:7500 Solvent: 6 SPE Solvent Select Valve 50: | ✓ | ✓ | ✓ | ✓ |
| Elution | Volume:4000 Aspirate:30000 Dispense:7500 Solvent: 7 SPE Solvent Select Valve 50:50 | ✓ | ✓ | ✓ | ✓ |
| Elution | Volume:10000 Aspirate:30000 Dispense:7500 Solvent: F SPE Syringe Valve Hexane | ✓ | ✓ | ✓ | ✓ |

Method 2

| Operation | Values | Column 1 | Accuvap |
|-----------|---|----------|---------|
| Elution | Volume:75000 Aspirate:30000 Dispense:7500 Solvent: 8 SPE Solvent Select Valve Toluene | ✓ | ✓ |

The Linc Method for this process creates one multi-step method out of the two SPEi methods. In the Sequence screen, the tray and SPM column positions for the first sample are defined and as more samples are added to the sequence the positions for additional samples are automatically indexed. Programming for a very complex sample prep process just got simple!

Linc Method in Sequence Editor

| Sample | Priority | Status | Device | Method | Inject Volume (uL) | Cartridges | Input Tray | Output Tray | Accuvap Transfer |
|--------|----------|-------------|--------|-------------|--------------------|---------------------------|-------------|-------------|---|
| 1 | 1 | UNPROCESSED | LINC | TradDioxin | | | | | |
| 2 | 1 | UNPROCESSED | | TradDioxin1 | 5000 | SPM 1 - 1, SPM 2 - 1, SPM | RK1241 -> 1 | RK1231 -> 1 | Stage 1, Stage 2, Stage 3, Stage 4, Stage 5 |
| 3 | 1 | UNPROCESSED | | TradDioxin2 | 0 | SPM 1 - 1 | | | Stage 1 RK1231 2, Stage 2, Stage 3, Stage |