

VOLATILE ANALYSIS
*A Space Age Approach to
 Environmental and Odor Volatiles
 Whole Air Sampling*

The SUMO-Bag represents a technology leap in the area of whole air sampling for "character defining" environmental and odor volatiles; offering a performance and cost-effective improvement to standard Tedlar™ bags and SUMMA™ canisters.

SUMO-Bag™ - Features and Benefits

- Inert inner layer of FEP (fluoroethylene-propylene) maximize semi-volatile recovery
- Metal outer cladding significantly reduces through-wall permeation of odorants
- Lower background profile than Tedlar™
- Better recovery for high-priority, semi-volatiles than Tedlar
- More cost effective and easier to handle than SUMMA canisters.

Background Comparisons

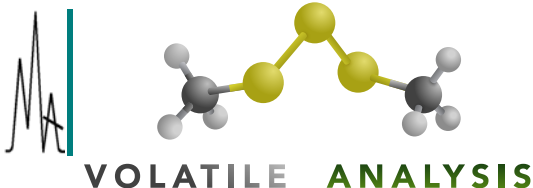
One of the known issues with Tedlar bags is the relatively high background, especially phenol. To evaluate the advantages of the SUMO-Bag, matching bags (m-FEP and Tedlar) were filled with dry breathing air and allowed to equilibrate for 18 hrs. GC/MS analysis shows several background components present in the Tedlarbag; notably phenol and DMAC (dimethyl acetamide). A graphical presentation of the full recovery results in shown on the reverse page.

Recovery Studies

To determine the comparative advantage of m-FEP to Tedlar, a simple recovery study was generated utilizing p-cresol as the chosen odor analyte. The results are summarized below:

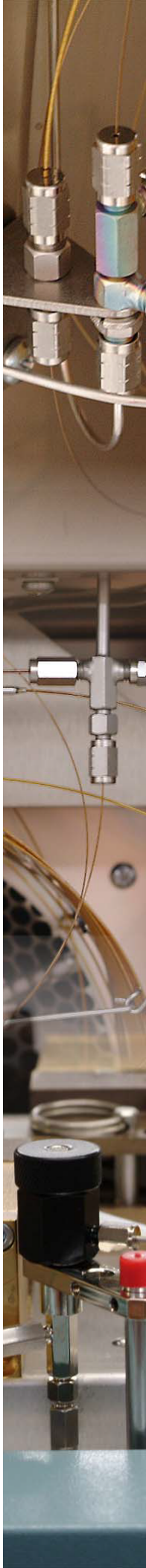
m-FEP			Tedlar		
Time(min)	Area	Area%	Time(min)	Area	Area%
0	20000	100.0%	0	20000	100.0%
25	19083	95.4%	63	6136	30.7%
132	16247	81.2%	165	4766	23.8%
345	12046	60.2%	300	3476	17.4%
1380	4799	24.0%	1380	1556	7.8%

For example, at 5.0 hours, the analyte recovery from the m-FEP bag was over 60%, while the analyte recovery from the Tedlar bag had dropped to less than 20%. A graphical presentation of the recovery results is shown on the reverse page.

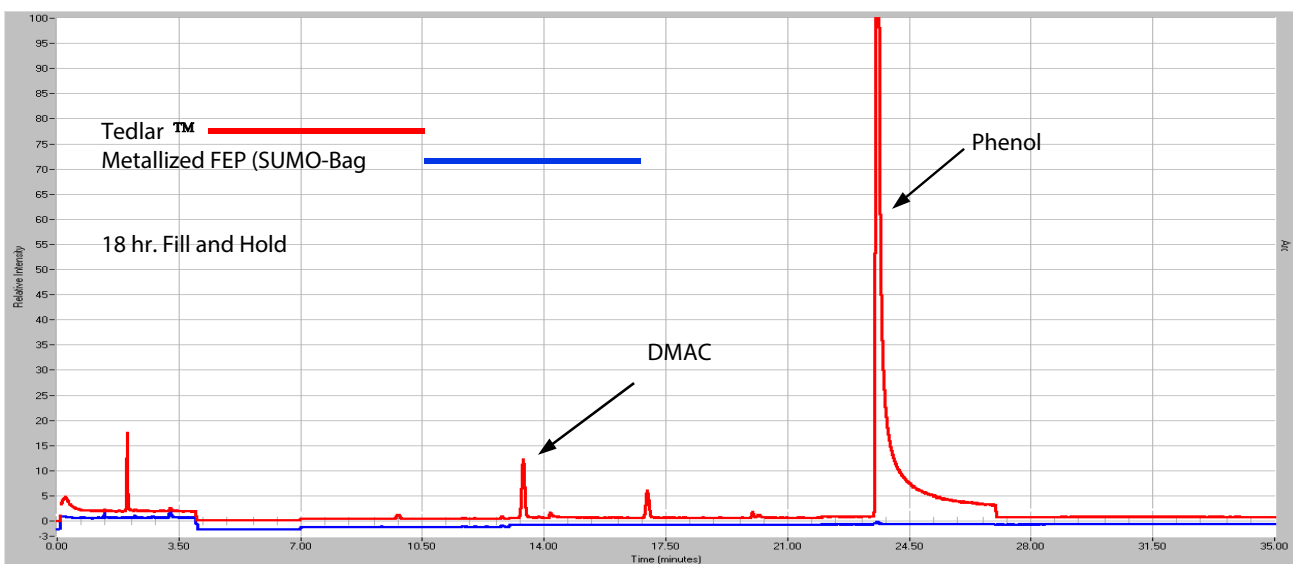


Gas Chromatography Systems and Services

29750 US HWY 431. Grant. AL 35747 USA
 Ph: (256) 486-3531: Email: info@volatileanalysis.com
 Web: www.volatileanalysis.com

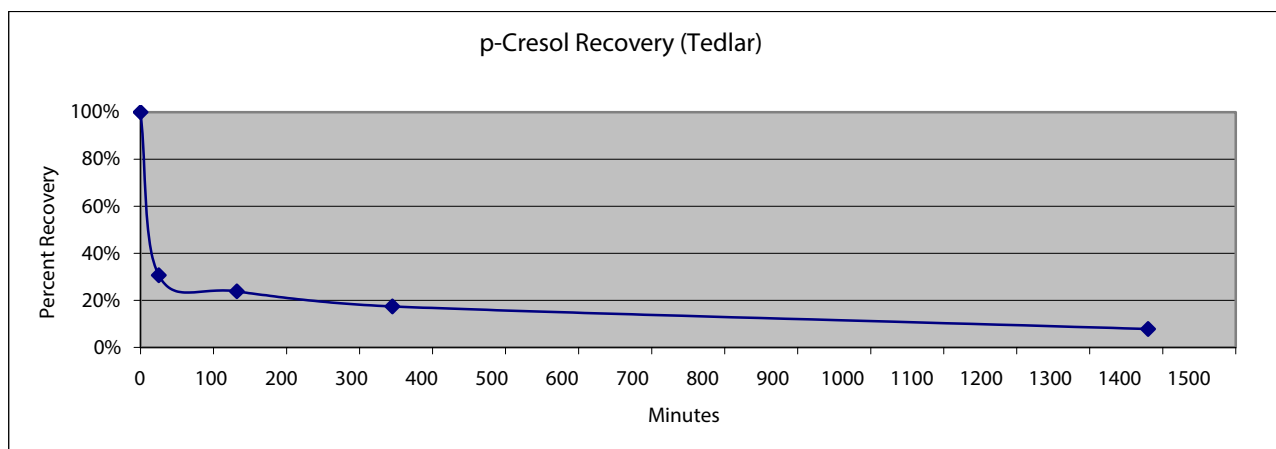


BACKGROUND COMPARISON

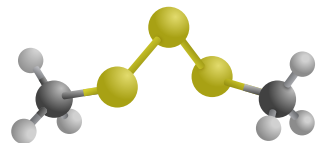
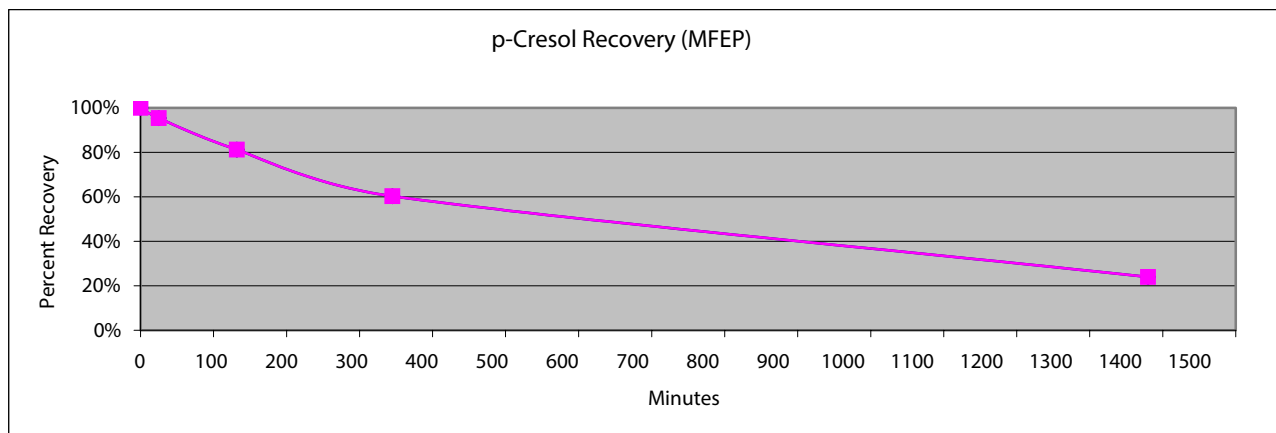


Background comparison of Tedlar vs. SUMO-Bag(metallized FEP) showing the inherent contaminants from the Tedlar material, and very low contaminant background of the SUMO-Bag.

RECOVERY STUDIES



This study shows the improved recovery of p-cresol for the SUMO-Bag vs. a standard Tedlar bag



VOLATILE ANALYSIS

Gas Chromatography Systems and Services

29750 US HWY 431. Grant. AL 35747 USA
Ph: (256) 486-3531: Email: info@volatileanalysis.com
Web: www.volatileanalysis.com

