

## **SETAC NEW ORLEANS 2009**

### **Presentation Type:**

Poster

### **Track:**

Environmental Analytical Chemistry

### **Session:**

Emerging Environmental Contaminants

### **Abstract Title:**

Solvent and storage considerations for analytical methods to determine highly fluorinated compounds in environmental matrices

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### **Abstract:**

Fluorotelomer alcohols and their precursors and perfluorocarboxylic acids are important highly fluorinated raw materials that have attracted considerable attention in the last eight years. Many of these compounds have been found in a variety of environmental matrices and have been reported in many locations. Since these compounds are relatively inert and often show both oleophobic and hydrophobic tendencies, not much attention has been focused on the analytical chemistry fundamentals such as solvent selection and sample container material selection. In this study a variety of perfluoroalkyl iodides, fluorotelomer iodides, fluorotelomer alcohols, and perfluorocarboxylic acids have been exposed to three types of storage containers (polypropylene, polyethylene, and glass) and two different solvents, Vertrel® and acetonitrile. The stability of these fluorinated compounds in environmental samples stored for up to 90 days was investigated. In some cases polypropylene storage containers did not give as good an analyte recovery as either glass or polyethylene containers. In a few cases acetonitrile did not demonstrate as good a precision for analyte recovery for either solvent extraction or sample storage as Vertrel®. The application of these results of these studies to the production of reliable analytical data will be discussed.