

## Analytical Chemistry Methods

3M has been a leader in developing analytical chemistry methods for PFOS and PFOA. Published methods from 3M's laboratory include:

- Hagen, D.F., J. Belisle, J.D. Johnson, P. Venkateswarlu, "Characterization of fluorinated metabolites by a gas chromatographic helium microwave plasma detector - The biotransformation of 1H, 1H, 2H, 2H-perfluorodecanol to perfluorooctanoate," *Analytical Biochemistry* 118: 336-43 (1981);
- Venkateswarlu, P., "Sodium biphenyl method for determination of covalently bound fluorine in organic compounds and biological materials," *Analytical Chemistry*, Vol. 54: 1132-37 (1982);
- Hansen, K.J., L.A. Clemen, M.E. Ellefson, H.O. Johnson, "Compound-Specific, Quantitative Characterization of Organic Fluorochemicals in Biological Matrices," *Environmental Science & Technology* 35 (4): 766-70 (2001);
- Reagen, W.K., K.R. Lindstrom, K.L. Thompson, J.M. Flaherty, J.M., "Analytical Techniques And Method Validation For The Measurement of Selected Semi-Volatile and Non-Volatile Organofluorochemicals In Air," *Journal of Occupational & Environmental Hygiene*, Vol. 1, No. 9: 559-69 (2004);
- Flaherty, J.M., P.D. Connolly, E.R. Decker, S.M. Kennedy, M.E. Ellefson, W.K. Reagen, B. Szostek, "Quantitative determination of perfluorooctanoic acid in serum and plasma by liquid chromatography tandem mass spectrometry," *Journal of Chromatography B*, Vol. 819, Issue 2: 329-38 (25 May 2005);

See also recent poster presentations:

- Malinsky, M.D., "Separation and detection of structural isomers of perfluorooctanoate (PFOA) using automated thermal desorption gas chromatography/mass spectrometry ATD/GC/MS," FLUOROS 2005 Conference, poster ANA007, <http://www.chem.utoronto.ca/symposium/fluoros/analytical.htm>; and
- Ellefson, M.E. & W.K. Reagen, "Comparison of ion-pairing, solid phase extraction, and protein precipitation," FLUOROS 2005 Conference, poster ANA021, <http://www.chem.utoronto.ca/symposium/fluoros/analytical.htm>.