DEPARTMENT OF PURE & APPLIED CHEMISTRY

University of Strathclyde Science

ANALYTICAL SERVICES @ CHEMISTRY

The Department of Pure and Applied Chemistry offers a range of professional analytical services to commercial and academic customers, offering an efficient, quality service by experienced staff utilising top-of-the-range equipment.

Elemental Analysis Service

We provide a quality service for the analysis of virtually all elements in the periodic table, with experience in analysing a wide range of sample types from synthesised organic and inorganic compounds (including polymers), to waters, effluents and environmental digests.

CHN: Carbon, Hydrogen and Nitrogen analysis is carried out on a Perkin Elmer 2400 Series II CHNS Analyser. Results are obtained as a percentage by weight, and are measured as a function of thermal conductivity. Sample sizes are around 1-2mg, and both solid and liquid samples are acceptable.

Halogens: The analysis of Fluorine, Chlorine, Bromine and Iodine is carried out using the well documented Schöniger combustion sample preparation technique, routinely followed by ion chromatography using a Dionex DX120 instrument. Titrimetric and ICP-MS methods can also be used in some instances where sample and matrix composition dictate. Sample sizes are normally around 5-10mg, and both solid and liquid samples are acceptable.

Sulphur: Sulphur analysis is routinely carried out using the Perkin Elmer 2400 Series II CHNS Analyser. Other techniques, including Ion Chromatography, ICP-MS and titrimetric methods may also be employed in the analysis of this element, where composition and desired detection limits dictate. Sample sizes are normally around 1-2mg, and both solid and liquid samples are acceptable.

Metals: The analysis of metals (and several non-metals) is carried out by Inductively Coupled Plasma Mass Spectrometry on an Agilent 7700 ICP-MS instrument. This is a very flexible and highly sensitive technique, capable of achieving detection limits as low as parts per trillion for many elements. The size of sample required varies greatly, and all solid samples require digestion prior to analysis. These requirements are best discussed with the service prior to submission.

Elemental Scan: The service is also able to offer a semi-quantitative elemental scan by ICP-MS to help in the determination of the elemental composition of a sample.

Microanalysis Service

- Carbon, Hydrogen, Nitrogen Analysis
- Halogen Analysis
- ICP-MS

Contact

Contact us for a quote or an informal discussion of your requirements: call **0141 548 2257** or email: **chemistry.services@strath.ac.uk**