Announcement of a European Inter-Laboratory Comparison Study on the Quantitation of Polycyclic Aromatic Hydrocarbons (PAHs) in Primary Smoke Condensate

Organised by the Institute for Reference Materials and Measurements of the European Commission’s Directorate-General Joint Research Centre

Background
In 2002, the European Commission’s Scientific Committee on Food (SCF) assessed 33 polycyclic aromatic hydrocarbons (PAHs) and found that due to their toxic properties 15 of them were of major concern for human health and should be monitored to enable long-term exposure assessments (SCF 2002). In November 2003 a new regulation came into force defining maximum permitted concentrations for benzo[a]pyrene (10 µg/kg) and benz[a]anthracene (20 µg/kg) in materials to be used for the production of smoke flavourings for human consumption (EU 2003). The regulation requires the registration of those materials before their introduction on the European internal market. In 2005 the Joint FAO/WHO Expert Committee on Food Additives identified one additional compound that should be monitored as well (JECFA 2005). These 15+1 analytes (16 EU priority PAHs) are targeted by this collaborative trial (see below).

Objective
The aim of this study is to provide to expert laboratories the possibility to assess their performance for the analysis of PAHs in primary smoke condensates (PSC). From the list of analytes given below, at least benzo[a]pyrene and benz[a]anthracene have to be analysed as both are regulated for PSC.

Test Materials and Analytes
Two individual samples of a liquid smoke condensate mixture spiked with the 16 PAHs of concern will be supplied to the participants for analysis.

The target analytes are:

- benzo[c]fluorene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[j]fluoranthene,
- benzo[a]fluoranthene, benzo[ghi]perylene, benzo[a]pyrene, cyclopenta[cd]pyrene,
- dibenzo[a,h]anthracene, dibenzo[a,e]pyrene, dibenzo[a,h]pyrene, dibenzo[a,i]pyrene,
- dibenzo[a,l]pyrene, indeno[1,2,3-cd]pyrene, chrysene, and 5-methylchrysene.

General Outline of the Exercise
The participants are requested to perform replicate analyses on the samples applying a method of their own choice. Methods based on GC/MS as well as LC/FLD have been recently validated by collaborative trial (Palme et al. 2005; Simon et al. 2006a, b).
As one of the PAHs has shown to be unstable, the given period of time for analysis will be very narrow, max. 10 days after dispatch date that is scheduled for 20 June 2006. The dispatch date will be confirmed one week in advance.

Registration and reporting of results have to be done via the WEB based interface of DG JRC-IRMM:

http://www.irmm.jrc.be/imepapp/registerForComparison.action?comparison=75

Please fax the confirmation form to +32 (0)14 571 343.


**Literature**


