

Meeting lower sulfur standards

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ERM[®] announces new low sulfur European reference materials for petrol

Every car driver will be aware of the environmental pollution caused by sulfur in fuel, so the implementation of EC Directive 2003/17/EC will come as good news. It requires that petrol (gasoline) with a total sulfur content below 10 mg per kg must be available on forecourts in all EU Member States by 2009. It will be the responsibility of the oil industry to ensure that these new standards are met, and this represents a challenge for analytical chemists in the oil industry and in consumer protection laboratories.

To assist laboratories, the three producers involved in the European Reference Materials (ERM[®]) collaboration now in its third year – Germany's Bundesanstalt für Materialforschung und -prüfung, the UK's LGC and the European Commission's Joint Research Centre, Institute for Reference Materials and Measurements – have jointly developed and characterised three new certified reference materials (CRMs) which will allow the analysis of the sulfur content in commercially available petrol with a greater certainty than is currently possible.

The reference materials have sulfur present naturally rather than as a spike, so they are as similar as possible to the samples being tested. Two of the materials are made from commercial petrol, while the third is prepared by blending commercial petrols containing different levels of sulfur to give the required concentration.

ERM producers use the most advanced principles currently available, described in ISO Guides 34 and 35 for the production of certified reference materials. The three reference materials, with sulfur nominally at 10, 20 and 50 mg per kg, were characterised independently by all three of the ERM producers using different variants of isotope-dilution mass spectrometry. The producers' technical expertise in these methods was demonstrated by their successful participation in an international interlaboratory comparison study. The results from the three institutes were combined to give the certified values for each material and uncertainties were determined which include contributions for characterisation, stability and between ampoule heterogeneity.

The new reference materials are packaged in 19 mL clear borosilicate glass ampoules and each has a certificate of analysis. They are available as a set of three or individually through LGC Promochem at askus@lgcpromochem.com or call +44 (0)20 8943 8480, or individually from the certifying institutes at www.irmm.jrc.be and www.bam.de.

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Notes to editors:

About ERM[®]

ERM[®] is the registered trademark for European Reference Materials (www.erm-crm.org) launched in May 2004 to produce a brand new standard in reference materials to ensure reliability and comparability of the results of chemical analysis. European Reference Materials are certified materials, which undergo uncompromising peer evaluation and offer highest quality and reliability. They are a major tool for improving the confidence in, and the mutual recognition of test results and certificates in a global market. CRMs comply with high metrological requirements, ensuring traceability of measurements results, and are the end-point of the traceability chain, thus being primary standards in chemistry. Founding partners of the European Reference Materials concept are three major European reference materials producers:

- The Institute for Reference Materials and Measurements (IRMM) of the European Commission's Directorate-General Joint Research Centre, Belgium (www.irmm.jrc.be), is an accredited reference materials producer.
- Bundesanstalt für Materialforschung und -prüfung (BAM), Germany (www.bam.de)
- LGC, United Kingdom (www.lgc.co.uk), is an accredited reference materials producer.

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