

## **Determination of Mineral Oil in Sunflower Seed Oil - Results of an Interlaboratory Comparison**

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In April 2008 EU Member states were informed via the Rapid Alert System for Food and Feed (RASFF) that sunflower oil originating from Ukraine was found to be contaminated with high levels of mineral oil. In response to that incident the European Commission adopted Decision 2008/433/EC specifying special conditions for the import of sunflower oil from Ukraine, and the EC Standing Committee on the Food Chain and Animal Health agreed on provisions for sampling of sunflower oil for compliance testing and minimum performance criteria for analysis methods used to determine mineral oil in sunflower. As this type of analysis was rather new to most official food control laboratories, information on the comparability of the analytical data was lacking. Regarding the high annual turnover of sunflower oil, compliance decisions based on biased analysis results would either lead to the undesirable dietary exposure of the EU population to high levels of mineral oil, or would cause significant economic losses.

In order to investigate the competence of official as well as industrial food control laboratories in Europe, the Institute for Reference Materials and Measurements (IRMM) of the European Commission's Joint Research Centre (JRC) organised a proficiency test for the determination of mineral oil in sunflower oil in the second half of 2008. The organisation of the study as well as the evaluation of the results was done in accordance with internationally accepted guidelines. Four test materials were dispatched to participants: contaminated crude sunflower oil, contaminated refined sunflower oil, spiked sunflower oil, and a mineral oil solution in n-heptane. The participants were free to choose any suitable testing method. Altogether 62 laboratories from 19 EU Member States, Switzerland and Ukraine subscribed for participation in the study. In total, 55 laboratories reported back results to the organisers of the study. The percentage of satisfactorily performing laboratories was above 80% for all oil test materials demonstrating a high capability of European laboratories for reliably estimating the mineral oil contamination level in sunflower oil.