



Melamine in milk powder

Benchmarking laboratories' ability to detect melamine



Protecting European consumers

In 2008, the health scare in China over powdered milk raised concerns about possible melamine contamination in products on the European market. Processed foods such as biscuits and chocolates could contain traces of milk powder, so the European Commission decided that imports from China containing milk products has to be analysed, and if more than 2.5 mg/kg melamine was detected, they were to be immediately destroyed (Commission Decision 2008/798/EC)

Can laboratories detect melamine accurately?

The JRC-IRMM carried out a proficiency test to benchmark laboratories' ability to detect melamine. Laboratories from 31 countries participated in the test, including Australia, China, India, Japan, New Zealand, the United States of America, as well as 21 of the 27 EU Member States.

The results of the study were that 74% of the 114 results for milk powder and 73% of the 112 results for the baking mix were within the acceptable range, as defined by common international laboratory proficiency guidelines. The values reported by the laboratories were also accompanied by values of measurement uncertainty, which is extremely important when measuring close to a legal limit. Here there was some scope for improvement, as around a quarter of the uncertainty values (23% milk powder, 22% baking mix) were underestimated.

The study also compared the laboratories' results with the methods they used to reveal which measurement technique works best. In this case, isotope dilution mass spectrometry with a stable isotope labelled melamine was generally more accurate.

For further information: <http://irmm.jrc.ec.europa.eu/melamine>

