Evaluation questionnaire heavy metals and formaldehyde

To : Participating laboratories
From : RGV
Date : 15 february 2008
Re : Evaluation

Together with the final report of the PT on heavy metals and free formaldehyde iis07A05, a questionnaire was sent to the participating laboratories.
In total 68 questionnaires were sent out. A high response was received. After one month 20 (=29%) completed questionnaires had been returned.

The evaluation of the results is as follows:

Sample amounts: 45% sufficiently and **55% not enough** material sent! (see below)
Quality of the samples: 35% good and 65% satisfactory
Instructions: 90% sufficient, 5% too much and 5% not sufficient
Number of metals investigated: 95% sufficient and 5% not suffcient (Cr6+ is missing)
Final report ready after one month: 35% good, 50% satisfactory and 15% unsatisfactory
Information in the final report: 50% good, 35% satisfactory and 15% unsatisfactory
One PT per year: 95% satisfactory and 5% not often enough
Liquor ratio: 53% prescribe one, 26% ask for two and 21% leave it to the participant (see below)

Also some suggestions and one remark were given:
More info on extraction conditions (temp, time)
More info on calibration (acid or sweat solutions)
Fix a public standard method to be used in the PT
Increase metal content in samples to see more contrast
Exact the same method must be used, so instructions must be given
Prefer report to receive 15 days after deadline
PT is not suitable for in house methods
flame retardants in plastics
Cr6+ in leather
organotin compounds in polymers
soon a new standard will become in force in Germany that prescribes a liquor ratio of 1:50

From the above evaluation we concluded that in general the participating laboratories are content with the current operation and the choices made, except for two items.

1 - The opinion on the liquor ratio to be used is rather divided, although a small majority of the current respondents is in favour for one prescibed liquor ratio.

2 - The most remarkable observation is that 55% of the respondents (11 of the 20) is of the opinion that the sample amounts sent (4 grams per sample) are not enough.
Minimum amounts requested are 5, 8, 10, 15 or 20 grams.
There obviously is a wrong idea present on the goal of a proficiency test (and the rights and duties of the participating laboratories) amongst some of the respondents.
The goal of a PT is to measure the performance of the participating laboratories, while performing the tests under normal daily conditions, without any special measures. In ILAC G13 and ISO/DIS17043 the following clause is present on this:
"Proficiency testing schemes shall, where practicable, be designed to ensure that there is as little opportunity as possible for collusion and falsification of results.
Note: Although all reasonable measures should be taken by the provider to prevent collusion, it should be appreciated that it is the responsibility of the participants to avoid it. Collusion and falsification are unethical and constitute scientific fraud.".
This means that a PT provider is not allowed to send excessive sample amounts to avoid repetitive testing. In the past iis did investigate how much sample the laboratories used for routine analysis and that appeared to be 1-2 grams per determination.
Hence the amounts of 4 grams should be enough to allow a duplicate determination by the laboratories and more than 4 grams should be considered as excessive and giving opportunity to collusion and falsification of results.
Of course it is allowed to send more sample material after closure of the data collection and the preparation of the PT report. And many laboratories do request iis for retained samples as follow up on each PT.