



Taiwan Accreditation Foundation

**APLAC T070 Determination of Polybrominated Diphenyl Ethers (PBDE) in  
ABS  
Proficiency Testing Program  
( Program Proposal )**

**Organization**

This proficiency testing programme will be organized by the Taiwan Accreditation Foundation (TAF) under the auspices of Asia Pacific Laboratory Accreditation Cooperation (APLAC).

**Instruction**

The main use of PBDE is as flame-retardants. Many types of polybrominated chemicals, including PBDE, can be found in a variety of consumer products such as textiles and furniture. In addition, they may be found in electrical equipment components including thermoplastics, foams, circuit boards capacitors, and wire insulation systems. Exposure to polybrominated flame-retardants may lead to an increasing risk of cancer. The main purpose of this proficiency testing program is to evaluate the competence of participating laboratories for analysis of Polybrominated Diphenyl Ethers (PBDE) in ABS.

**Homogeneity/stability Test**

To allow suitable and reliable proficiency testing, homogeneity/stability test will be conducted on randomly selected samples before test samples are distributed to participants. Not less than ten samples will be taken randomly from the sample log and analyzed using validated methodology in duplicate for homogeneity tests by the TAF collaborator.

The preparation procedures and statistical analysis are in accordance with the recommendations as stipulated in ISO/IEC G43-1:1997, ILAC G13:2007 and APLAC PT002 Testing Inter-laboratory Comparisons.

## **Testing Method**

Each participating laboratory will be given two bottles containing about 7 gram of ABS pellet each. The laboratories are required to determine the concentration of PBDE in the samples. The preferred analytical instrument is GC or GC/MS. Analysis should be conducted duplicate; and test results, associated with measurement uncertainty and other technical information should be reported in the Results Sheet provided and returned electronically to the TAF on or before August 15, 2009.

## **Test Items and Test Methods**

Test item: ABS pellets

Test to be conducted: Polybrominated Diphenyl Ethers (PBDE)

Test method: Analyzed by GC or GC/MS

## **Invitation of Participants**

APLAC members and selected unaffiliated bodies will be invited to participate in this programme. Up to maximum of 4 laboratories may be nominated by each APLAC accreditation body (AB), and 1 laboratory may be nominated by each EA & IAAC AB. The nomination form should be returned to TAF before June 26, 2009.

## **Results Collection**

Results Sheet will be provided to the participating laboratories for result collection. All participating laboratories should return the completed result sheets to TAF before August 15, 2009 as prescribed in the instructions. If any result is not received by August 15, 2009, TAF will contact the AB of the corresponding economy to follow up. Late return of result sheets without justified reasons may be regarded as disqualified and the corresponding data will not be included in the analysis.

## **Results Analysis and Issuance of Reports**

The z-score approach with median will be used for statistical analysis of the test results. An interim report with all the received data tabulated in a well-formatted table and the consensus values of each test will be sent out to all participating AB, then kindly request the participating AB delivers the interim report to the participating laboratories. Any clarification or correction of results should be made within 2

weeks after receipt of the interim report.

Once confirmed results have been received from all participants, a draft report will be written up. The draft report will be reviewed by the APLAC Proficiency Testing Committee. Upon approval of the draft report, an electronic copy of the final report will be forwarded to each participating AB for distribution to their respective participating laboratories.

### **Schedule of the Programme**

December 2008	Submit PT program proposal
April-June 2009	Prepare samples and homogeneity/stability test of sample
June 2009	Issue the invitation letter
July 2009	Dispatch the samples
August 2009	Results Collection and data analysis
September 2009	Issue interim report
October 2009	Issue final report