

29 February 2008

## Most used flame retardant TBBPA approved by EU

EU Risk Assessment Outcome		
	EU Human Health Risk Assessment	EU Environment Risk Assessment
<b>TBBPA reactive use</b> (Printed Circuit Boards)	√ Ok for use	√ Ok for use
<b>TBBPA additive use</b> (ABS plastics)	√ Ok for use	√ Ok for use For 1 production plant in Europe local measures have been established to reduce emissions
<b>No restrictions on use – complies with all EU Legislation</b>		

Tetrabromobisphenol-A (TBBPA)<sup>1</sup> is the largest volume brominated flame retardant in use today to improve fire safety of printed circuit boards<sup>2</sup> and plastics in electrical and electronic equipment<sup>3</sup>. **TBBPA is used in >70% of the world's E&E appliances.**

TBBPA has undergone an 8-year EU Risk Assessment to evaluate its effects on human health and the environment. The Risk Assessment, and the subsequent Risk Reduction Strategy, did **not foresee any legislative restriction for TBBPA. TBBPA is therefore approved for use by the EU for all its applications.**

EU Member State experts have concluded that **TBBPA presents no risk to human health.** They also agreed that there is **no risk to the environment when TBBPA is used as a reactive component** such as in printed circuits boards. For the additive use of TBBPA in E&E plastics casings, an environmental risk was identified in one production plant in Europe only. No risk was identified for the other production plants or in end use articles. To address this risk the EU approved a Risk Reduction Strategy and, after reviewing all possible measures it recommended a proportionate measure requesting an environmental permit to control and reduce emissions (Integrated Pollution Prevention Control - IPPC).

Moreover, **TBBPA is not restricted by the RoHS Directive.** Based on the results of the risk assessment, there is no basis for including TBBPA in the upcoming revision of this Directive. In the frame of TBBPA risk reduction strategy, EU Member States reviewed a series of EU legislation including the RoHS Directive and did not withheld it as an appropriate measure to control the local risks identified.

As a next step, the EU will publish in the EU Official Journal the conclusions of TBBPA Risk Assessment before June 2008. This will enable a smooth transition of TBBPA through the REACH registration procedure, as the science needed to register TBBPA is already completed.

More information: [www.bsef.com](http://www.bsef.com) and [www.ebfrip.org](http://www.ebfrip.org)

<sup>1</sup> CAS number: 79-94-7

<sup>2</sup> TBBPA is one of the monomers to form the epoxy resin, therefore **it no longer exists as a free chemical in the final board** but forms part of the polymeric backbone of the resin. As a **reactive chemical TBBPA is used in more than 95% of FR-4 and CM-3 printed circuit boards**, the most commonly used board in electronic devices, including domestic appliances such as televisions, printers, computers, radios and fax. It is also predominantly used in CM-1 laminates.

<sup>3</sup> As an additive, TBBPA is mainly used in ABS plastics.