



ASSOCIATION CONNECTING  
ELECTRONICS INDUSTRIES®

Government Relations  
1333 H Street, N.W., 11th Floor, West Tower, Washington, DC 20005  
Tel. 202.962.0460 Fax 202.962.0464  
www.ipc.org

September 12, 2003

Dr. Scott Masten  
Office of Chemical Nomination and Selection  
NIEHS/NTP  
P.O. Box 12233,  
MD A3-07  
Research Triangle Park  
North Carolina, 27709  
Via Fascimile: 919-541-3647

**RE: Announcement of and Request for Public Comments on Substances Nominated to the National Toxicity Program (NTP) for Toxicological Studies and on Study Recommendations Made by the NTP Interagency Committee for Chemical Evaluation and Coordination (ICECC) [68 FR 42068]**

IPC - Association Connecting Electronics Industries - is pleased to submit the following comments in response to the Announcement of and Request for Public Comments on Substances Nominated to the National Toxicity Program (NTP) for Toxicological Studies and on Study Recommendations Made by the NTP Interagency Committee for Chemical Evaluation and Coordination (ICECC). IPC appreciates the opportunity to file these comments.

IPC is the national trade association for the electronic interconnection industry, and represents more than 2,400 member companies involved in the manufacturing and assembly of printed circuit boards. Printed circuit boards and electronic assemblies are used in a variety of electronic devices that include computers, cell phones, pacemakers, and sophisticated missile defense systems.

The majority of circuit boards manufactured today are built on epoxy resin-fiberglass substrate. As discussed in the background document for the NTP nomination,<sup>1</sup>

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<sup>1</sup> Tetrabromobisphenol A [79-94-7], Review of Toxicological Literature, prepared for Scott Masten, Ph.D., National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, North Carolina 27709, Contract No. N01-ES-65402. June 2002.

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Tetrabrombisphenol A (TBBPA) is used as a reactive flame retardant in circuit boards. IPC is therefore vitally interested in the generation of high quality, peer-reviewed scientific studies concerning the use of reactive TBBPA in circuit boards and other interconnecting structures.

Use of TBBPA as a reactive flame retardant should not be confused with its equally common use as an additive flame retardant, often for electronics housings. Although reactive and additive TBBPA share the same chemical origins, it is vital that any study by NTP acknowledge the differences between reactive and additive TBBPA. It has been our understanding that once TBBPA has been reacted into the resin core of circuit board substrates, its chemical availability is significantly decreased. The toxicological studies cited in the background document were conducted on free, non-reacted TBBPA. Given the expected extremely low proportion of free TBBPA in circuit boards,<sup>2</sup> it is important to distinguish between separate uses, exposures, and resulting risks associated with additive and reactive TBBPA. IPC encourages the NTP to further study the availability of reacted and unreacted TBBPA in circuit boards and thoroughly addresses the separate uses, exposures, and resulting risks associated with additive and reactive TBBPA.

Finally, we would like to note our concern regarding the background document's reference to the US Environmental Protection Agency's (EPA's) reporting requirements for TBBPA under the Toxic Release Inventory (TRI).<sup>3</sup> Significant concerns were raised in response to the proposed lowering of the TRI reporting threshold for TBBPA on the basis of its qualification as a Persistent Toxic Bioaccumulative (PBT) chemical.<sup>4</sup> Should the NTP undertake to study TBBPA, it is expected that the concerns regarding TBBPA will be fully examined without prejudice.

Sincerely,

Fern Abrams  
Director of Environmental Policy

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<sup>2</sup> Ibid, pg. 5.

<sup>3</sup> 64 FR 58666, October 29, 1999.

<sup>4</sup> US EPA Docket OPPTS-400132