

January 9, 2004

European Commission  
DG Environment, Unit A2  
Consultation Directive 2002/95/EC, B-1049  
Brussels, Belgium  
[ENV-RoHS@cec.eu.int](mailto:ENV-RoHS@cec.eu.int)

Re: Consultation Document on Amendment of Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment

Dear Sir or Madam:

IPC - Association Connecting Electronics Industries - is pleased to submit the following comments in response to the above referenced notice. IPC is an international trade association for the electronic interconnection industry, and represents over 2,000 member companies involved in the manufacture and assembly of consumer, commercial, and military electronics.

IPC appreciates the opportunity to comment on the Consultation Document on the Amendment of Directive 2002/95/EC. As stated by our Board of Directors position on lead free, "IPC prefers global rather than regional solutions to this issue, and is encouraging a coordinated approach to the voluntary reduction or elimination of lead by the electronic interconnection industry." IPC is pleased to offer the following comments on the proposed definitions of Maximum Concentration Values:

"A maximum concentration value of 0.1% by weight in homogeneous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and of 0.01% weight in homogeneous materials for cadmium shall be tolerated. Homogeneous material means a unit that can not be mechanically disjointed in single materials".

#### **Comments on the Definition of "Homogeneous Material"**

IPC is in favor of a more detailed definition for "homogeneous material". In the proposal, it is defined as a "unit that can not be mechanically disjointed in single materials". There needs to be greater definition and some examples to aid manufacturers in making determinations as to what constitutes a homogenous material. IPC encourages the use of clarifying statements with examples that will assist manufacturers, regulatory

agencies, and other interested parties. It will also ensure a more level playing field, rather than leaving it to individual companies to make their own divergent determinations.

Furthermore, the definition of “homogeneous material”, utilizes a previously undefined phrase – “mechanically disjointed”. This phrase needs to be more clearly defined. It is possible that a list of mechanically disjointed activities could be created in an annex (similar to the list of “recovery” operations in 75/442/EEC. A list of processes that are not “mechanically disjointing activities” would also be helpful.

IPC additionally recommends a proposal that small parts (below 1 gram) should be considered a “homogenous material”. Such small parts, which are very commonly used in electronics, would be very difficult to mechanically disjoint. In addition, analysis of small parts would have a greater degree of imprecision than that of larger parts.

### **Comments on Maximum Concentration Values**

IPC supports the setting of Maximum Concentration Values without qualifiers. Previous discussions of RoHS limits had included the phrase “not intentionally added”. This phrase would have created a system where parts with very little of the RoHS substances were banned. This phrase could result in manufacturers spending disproportionate sums of money to remove a small amount of a RoHS substance.

All analyses and calculations have inherent uncertainties. IPC recommends that all compliance determinations use statistical methodologies to account for analytical imprecision.

IPC recommends the setting of “interim” Maximum Concentration Values that are higher than the values listed in the Consultation Document for two reasons. First, since certain “end use” exemptions were made in the RoHS Directive, there will be lead product and lead-free product being produced side-by-side in manufacturing operations. It is a huge financial burden to purchase completely separate wave solder operations for both lead and lead-free product. It is probable that lead product will be run through lead-free wave solder, contaminating the lead-free wave solder bath. Japanese manufacturers are experiencing this currently, and some of their manufacturers replace the wave solder bath at 0.4% lead to prevent fillet-lifting.

Second, IPC is concerned that the technology does not yet exist to recycle mixed solder streams to reach the 0.1% level economically. This means that existing lead-containing solder residue streams may not be fully recycled. In order to encourage the recycling of solder residues, IPC recommends that for solder containing recycled materials, and interim level of lead be allowed until recycling technology is developed and implemented that allows the production of 0.1% lead solders economically.

For these reasons, IPC supports setting the Maximum Concentration Value for lead to 0.4% for an interim period, as the electronic industry moves through the transition from lead to lead-free.

## **Conclusions**

In conclusion, this definition for Maximum Concentration Values is a good start. IPC recommends that the following changes be made:

- Give better definitions for the words used to define the MCV, and include examples.
- Include statistical methodologies that account for the inherent uncertainty in analyses.
- Recognize that due to exemptions in the RoHS Directive, it is likely that wave solder baths will be contaminated by leaded parts for a period of years. IPC supports that setting of an interim MCV of 0.4% during this transition phase.

IPC looks forward to working with the European Commission on this issue. As stated by our Board, IPC encourages and supports research and development of lead-free materials and technologies. These new technologies should provide product integrity, performance and reliability equivalent to lead-containing products without introducing new environmental risks or health hazards.

Please contact Fern Abrams and David Bergman with any questions or concerns.