October 31, 2008

Office of the Secretary
Consumer Product Safety Commission
Room 502
4330 East West highway
Bethesda, MD 20814

Subject: Consumer Product Safety Improvement Act;
Section 101: Children’s Products Containing Lead; Lead Paint Rule

The Information Technology Industry Council (ITI), Consumer Electronics Association (CEA), and IPC – the Association Connecting Electronics Industries, represent numerous manufacturers of a wide range of components, computers, televisions, video display devices, wireless devices, MP3 players, printers, and other electronic equipment. We appreciate the time you have taken to work with industry and ensure that the concerns of the high-tech electronics industry are addressed.

Our member companies have long been leaders in innovation and sustainability. Many of our members go beyond requirements on product safety, environmental design and energy efficiency, and lead the way in product stewardship efforts. We appreciate the opportunity to provide feedback to the Consumer Product Safety Commission (CPSC) and appreciate the effort CPSC is putting forth to ensure stakeholder involvement. We look forward to continuing work with the CPSC to address issues relating to compliance and implementation of the Act.

Based on our evaluations, most electronic devices will not be considered children’s products as defined in the Consumer Product Safety Improvement Act (CPSIA). By definition, a “children’s product” is a “consumer product designed or intended primarily for children 12 years of age or younger.” 15 U.S.C. 2052(a)(16). While there are some computers and other electronics that are specifically designed for use by children, the majority of electronic products (e.g., servers, laptop computers, desktop computers, mobile internet devices, etc.) are not generally viewed as “children’s products,” even though they may be used by children from time to time under the supervision of adults in homes or schools. In the near future, we will be submitting additional, more detailed, comments on the definition “children’s product” as it is applied to electronic products.

These comments are intended for the small number of electronic devices that may be considered children’s products and therefore subject to the lead content limits under CPSIA.

**Where is lead used in electronics?**

The European Union’s Directive on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (the “RoHS Directive”) severely restricts the use of lead (and other compounds). The RoHS Directive establishes a maximum concentration value (MCV) of
1,000 ppm per homogenous material in electronics, but also grants exemptions where there are no technically feasible or environmentally preferable substitutes. To date, the EU Technical Adaptation Committee (TAC) has allowed for 22 applications of lead above the MCV of 1000 ppm. In the case of lead as an alloying material in steel, aluminum, and copper the regulations allow for up to 4.0% (or 40,000 ppm). These threshold limits for lead have been transposed to other RoHS-like legislation in Korea, Japan and California. China has also set the lead threshold limit for notification at 1,000 ppm.

The European Union set the lead limits in the RoHS Directive at 1,000 ppm at the homogeneous material level because 1) “a total avoidance (of lead) is impossible to achieve” and 2) that level was considered to “ensure a high level of protection.” First, lead is a very ubiquitous element in nature, is found in concentrations of around 50 ppm in virtually all soil, and in concentrations of around 600 ppm in most iron ore. While these metals are separated in processing, removing all lead from all metals is virtually impossible. Therefore, the electronics industry has been working at ensuring a 1,000 ppm limit where technically feasible.

For electronics, lead is used in discrete instances for specific performance or safety reasons. Annex C of the RoHS Guidance Notes issued by the United Kingdom’s Department for Business, Enterprise and Regulatory Reform (UK BERR) contains a list of RoHS exemptions and descriptions of where these are used in electrical and electronic equipment. These are attached for reference. However, it is important to note that most of these uses do not have applications in children’s products. For example, network infrastructure equipment (exemption 7.2) and high-power loudspeakers (exemption 27) are not used by children. Most of these exempted uses of lead are also internal to the device, either inside a chassis or casing or sealed entirely in glass.

The one instance where lead may potentially be used in accessible parts is exemption #6 – lead as an alloying element. Certain connectors, screws and prongs that are machined (also called “turned” parts or lathed parts) to a specific shape and size for use need to have lead in specific amounts in order to soften the metal being shaped.

**Is the lead in electronics accessible?**

The lead limits for “children’s products” do not apply to any component part that is “not accessible to a child through normal and reasonably foreseeable use and abuse of such product.” Section 101(b)(2)(A). By definition, the CPSIA states that “a component part is not accessible...if such component part is not physically exposed by reason of a sealed covering or casing and does not become physically exposed through reasonably foreseeable use and abuse of the product.” Id. “Reasonably foreseeable use and abuse” includes “swallowing, mouthing, breaking, or other children’s activities, and the aging of the product.” Id. Nonetheless, “paint, coatings, or electroplating may not be considered a barrier that would render lead in the substrate inaccessible to a child.” Id. at (b)(3).

For the most part, all component parts inside of an electronic product are inaccessible under this definition. This is because all such products use a covering or casing to protect the internal components from dust, moisture, exposure, and other influences that could damage the component parts or otherwise impact the function of the electronic device. In most cases, the covering or casing can be removed by the use of tools (e.g., a screwdriver). The use of tools to remove a covering or casing is not a “children’s activity.” Therefore, we recommend that the

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CPSC clarify that component parts inside of an electronic children’s product that can only be accessed by the use of tools are considered “inaccessible” for purposes of the general lead ban in Section 101(a).

In some instances, electronic products may have panels that can be removed without the use of tools. However, in such instances, such products are generally not considered “children’s products,” and the panels usually require multiple steps (for example lifting and sliding) that smaller children typically cannot accomplish. Even if the component parts within these electronic products were viewed by the CPSC as “accessible” to children, most of the component parts themselves are inaccessible because the lead within these component parts is not accessible to the child. For example, most computer chips are really a component part within a component part. The actual computer chip is created on a substrate of silicon or a material with similar properties. This chip is then packaged within a plastic and epoxy package to protect the chip from damage.

For semiconductor chips, lead has been used inside of the package to connect the chip with the connectors on the outside of the plastic and epoxy package, and to the computer motherboard. There is no way to remove the lead from the computer chip inside the package without destroying the entire chip, which is not something a child could do under normal or reasonably foreseeable use or abuse of the component part. In addition, because of the EU RoHS Directive, many applications of lead in semiconductor chips have been replaced or are in the process of being replaced by other materials. Accordingly, the CPSC should clarify a component part still is viewed as inaccessible and exempt from the general lead ban in Section 101(a) if either of the following two circumstances exist:

1. Even if a component part could be considered accessible, if that accessible component part renders a smaller component part containing lead inside of the accessible component part inaccessible, or
2. If lead is inaccessible because it is covered, encased or joined to another part and therefore not physically exposed.

**How is accessibility tested?**

As mentioned above, most general-use electronic products are not likely to be “children’s products.” For those specific electronic products that are designed and intended primarily for children, most of the lead used in those products is inaccessible.

In 1981 the CPSC generated accessibility guidelines, addressing simulated use and abuse, sharp points, sharp metal, glass, for 8 years and younger and addressing choking and ingestion for children under 3 years. A similar standard was developed by the American Society for Testing and Materials (ASTM) with almost identical guidelines. Although it will need to be modified to address issues for children up to 12 years old, we believe that ASTM F963 standard is a good starting point for a common industry practice for determining accessibility or inaccessibility.

**In electronic devices, is it technologically feasible to achieve the 600, 300 or 100 ppm lead limits?**

As mentioned before, the EU RoHS Directive provides a list of exemptions where it was determined that there are no technically feasible or environmentally preferable substitutes for
specific uses of lead in electronics. While industry is continuing to analyze alternatives, it has not been possible to identify a viable alternative in all cases.

The question of whether “it is technologically feasible for all parts” to meet lead limits of 600, 300 or 100 ppm is a difficult one. As mentioned before, the RoHS Directive set the lead limits at 1,000 ppm at the homogeneous material level because 1) “a total avoidance (of lead) is impossible to achieve” and 2) that level was considered to “ensure a high level of protection.” However, it is important to note that this 1,000 ppm limit is at the homogeneous material level rather than the part level. Therefore, we suggest that the lead limit for accessible component parts for electronic products designed and intended primarily for children under 12 be set at 1,000 ppm.

We also suggest the CPSC establish a list of exemptions for which a higher lead use is permissible. Like the CPSIA, the EU RoHS Directive recognized that it is not technologically feasible for certain electronic products to meet the established lead thresholds. As a result of this, the EU Commission approved a number of specific exemptions where it could be demonstrated that removal of the lead was “technically and scientifically impracticable.” Because of the limited time provided by the CPSIA for the CPSC to develop the regulation of exemptions for certain electronic devices, we suggest that the CPSC take note of the extensive work already done by the EU in implementing the RoHS Directive, and we request that the CPSC not require the electronics industry to once again prove in a very tight timeframe that removal of lead in specific applications is not technically feasible.

Instead, in the interest of time, the CPSC should recognize the work already done by the EU and develop exemptions for all component parts (and electronic devices containing such component parts) that are based on the EU RoHS Directive exemptions. For lead in component parts of an electronic device that is considered accessible, the CPSC should, by regulation, provide an exclusion for that lead under Section 101(b)(4), if the component part is or would be considered compliant with the EU RoHS Directive.

**Current compliance with the RoHS directive**

Most global manufacturers (the ITI, CEA and IPC membership) design, manufacture and distribute products on a global basis and do not develop separate product lines for sale into the United States. The vast majority of manufacturers that are selling into the EU are compliant with the Directive. The UK National Weights and Measures Laboratory, the agency in the UK charged with enforcing the Directive, reported that in 2007, they issued 20 notices, one warning letter and took one case to justice. If a device is not sold into the EU, it is not subject to the Directive. Some devices, such as radio-based devices, must be made specifically for the US (or at least the radio components must be US-specific) and some smaller manufacturers do not sell into the EU. However, there is significant evidence that the global supply chain is rapidly becoming RoHS compliant. Therefore, it is very likely that in the near future even devices that are not designed nor intended to be sold into the EU will be compliant with the materials limits of the Directive.

Compliance with the Directive is being achieved by both reducing and substituting lead use and by relying on exemptions. Where lead could be eliminated, for example in most cases of solder, it has been. However, where it is not feasible, such as low-melting solder, certain leaded glass and other specialty parts, that use has been exempted, as discussed before. Most, if not all,

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2 See UK NWML 2007 RoHS report
electronic devices manufactured today contain one or more component parts that rely on one of these EU RoHS Directive exemptions for lead.

**Concluding Comments**

On behalf of our combined membership, we appreciate the opportunity to provide information and suggestions regarding the use, accessibility and feasibility of lead in electronics. As we noted in the introduction, most electronics will not fall into the scope of “children’s products.” Based on conversations with CPSC staff, we feel that further clarification of how to determine whether a product is a children’s product will be beneficial to the electronics and other industries. We hope to continue a dialogue with the CPSC as you develop a rulemaking for accessibility as well as the appropriate levels to set the lead limits in electronics. We would welcome the opportunity to have a small number of technical experts from our industry meet with CPSC to discuss these comments in more detail and answer any questions that you might have.

We look forward to continued, close cooperation as this important legislation is interpreted and implemented. Please do not hesitate to contact Ms. Megan Hayes, CEA, at mhayes@CE.org or 703-907-7660 or Chris Cleet, ITI, at ccleet@itic.org or 202-626-5759 or Ron Chamrin, IPC, at RonChamrin@ipc.org or 703-522-0225 if you have any questions.

Sincerely,

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