

**BANNOCKBURN, IL** – Just when you thought it was safe to go back in the factory.

With the industry still reeling in some circles from the after-shocks of the RoHS Directive, a proposed list of nearly 50 additional substances has touched off an uproar over Europe's apparent desire to obliterate modern electronics. In the latest volley, **IPC** is calling on the organization charged with assessing potentially hazardous substances for possible inclusion in supplemental legislation to the RoHS Directive to table its efforts until further scientific evidence is available to support a ban. In a letter dated March 27, Fern Abrams, director, of government relations and environmental policy, called the

### **Öko-Institut's**

preliminary list of substances "arbitrary and capricious" and "with little or no scientific basis." The effects of RoHS, she noted, have had multiple unintended consequences that in fact could actually cause more environmental damage than did widespread use of the now-banned substances.

"The higher processing temperature of lead-free alloys," she wrote, "has resulted in significantly higher energy usage" and has been projected to cause "higher air pollution, acid rain, stream eutrophication, and global warming impacts than tin-lead soldered electronics."

In the letter, Abrams urged the institute to temper its actions in light of the potential cost of implementation to the industry. She also cited the inadvertent environmental affects of the RoHS Directive. "Cost implications of the RoHS Directive's implementation are still being discovered," she wrote.

"IPC urges the Öko-Institut to avoid restricting additional substances to the RoHS scope while industry, governments and the public are still facing a variety of implementation challenges," Abrams wrote. "Any expansion of the RoHS scope must be thoroughly reviewed for technical feasibility."

The European Union assigned the Norway-based Öko-Institut (oeko.de) to expand the list of substances covered by RoHS. In turn, the group identified 46 additional substances for regulation, among them nickel, beryllium, gallium arsenide, liquid crystals and rosin (as in rosin flux). (A full list is at <http://hse-rohs.oeko.info/index.php?id=3>.)

The impact of a ban on such a wide range of materials would be far-reaching and potentially devastating to the world's electronics market. Rosin is used in flux; liquid crystals in all sorts of displays; gallium arsenide crystals are found in phones, optical networking and wireless LAN; and nickel is used for plating in a host of applications.

IPC historically has been reluctant to mix in what are seen as Europe's affairs. A former government relations director at IPC told this reporter that pressure from groups outside Europe tends to backfire, and the association did not attempt to coordinate actions against the RoHS Directive banning lead and other substances, which went into effect in July 2006.

Abrams left no doubt, however, the trade group would take a hard line this time around. Twice calling the Öko-Institut's actions "arbitrary and capricious," Abrams asserted the institute

## Possible RoHS Followup – Arbitrary and Capricious,™ IPC Claims

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mistakenly included TBBPA (Tetrabromobisphenol-A), a brominated flame-retardant used in laminate, on its list, despite that substance's having passed a recent EU risk assessment. She also claimed Öko-Institut "misused and misinterpreted" a Joint Industry Guide, which "was never intended to be used as a basis for any substance restriction" but rather as a means for the supply chain to share information.

Abrams called on Öko-Institut to have a "valid and scientific basis" for any substances on its list, and to "fully evaluate the life cycle (design, use and end-of-life) impacts" of the proposed substitutes prior to further legislating their use. "The shift from lead-bearing solder alloys to lead-free alloys has created reliability concerns within solder joints," she wrote.

"The high tin content solder joint may be stronger, [but] the thermal stresses applied are transferred to other locations within the assembly causing failures within the board or the components."

For the most part, the industry has been quiet – or perhaps unaware – of this latest go-around. Those who have been watching are up in arms, however. As Dr. Craig Hillman of **DfR Solutions** re marked on a widely read industry email forum, "The final result remains to be seen, but future electronics may have to be made from clay, rocks and paper."