EUROPEAN LAMP COMPANIES FEDERATION

Brussels, 31th March 2008

Ms Stephanie Zangl
Öko-Institut e.V.
Merzhauser Str. 173
79100 Freiburg
Germany

RE: ELC submission to RoHS exemptions review

Dear Ms Zangl,

Hereby we would like to submit the European Lamp Companies Federation (ELC) contribution to the stakeholder consultation on adaptation to scientific and technical progress under Directive 2002/95/EC of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment for the purpose of a possible amendment of the Annex.

Our submission includes comments concerning the following exemptions: 1, 2, 3, 4, 5, 6, 7, 9a, 14, 15, 16, 17, 18, 19, 23, 24 and 26 (each exemption is attached in a separate file).

With kind regards,

Gerald Strickland
Secretary General

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ELC submission to RoHS exemption #15

#	Question	**Exemption #15**
		Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages
1	Please state the amount of lead used per application, the lead content in the homogeneous material, the annual production volume as well as the number of applications related to exemption 15 put on the EU market annually.	Lead used in High-Power LED applications (InGaN devices). Though the number of devices is several tens of millions, the total of lead put on the market is less than 10 kg annually.
2	What has changed since the last evaluation in 2004? In the last four years, lead-free solders have been widely used, and research has been going on. The criteria for an exemption as specified in the results of the previous evaluation might not longer reflect the state of the art.	Lead free solder performance have improved, but still require too high of a reflow temperature.
3	Please explain the status of lead-free solder use in this application differentiated between lower power and high power flip chip applications.	Lead free solder has been explored in the use of the high power flip chip applications; however, lead free solder causes severe performance issues related to light ouput and temperature management.
4	Please justify whether or why and in which applications this exemption is still necessary and why substitution is technically not feasible. Please refer to the arguments used in the previous evaluation.	The use of lead free solder requires higher reflow temperature, which compromises the integrity of the die and ultimately severely impact product performance.
5	In case an exemption is still required, please provide a roadmap with activities, milestones and timelines towards the replacement of lead in these applications.	The product line volume is reducing year of year and being replaced by alternative technologies mentioned in the answer to question 2.
6	Assuming the current exemption will be given an expiry date, what date do you think is technologically feasible for industry?	ELC requests a continuation of the exemption.