

European Commission
DG Environment Unit G4
Consultation Directive 2002/95/EC
B-1049 Brussels
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5th of July 2004

Stakeholder Consultation on Adaptation to Scientific and Technical Progress Under Directive 2002/95/EC for the Purpose of a Possible Amendment of the Annex

Dear Sir/Madam,

AeA Europe and EICTA welcome the opportunity to contribute to this EC stakeholder consultation concerning exempted applications from the above EU Directive. While many of our Members may respond directly we have collected our Member's views in the format given. The answers will follow the questions given in your section "4. Consultation of interested Parties". They are numbered according to the question and sub question (A, B, C). In addition new exemption requests are included. In an Annex section further details will be listed which may be submitted (in a more detailed format) directly to you from the respective companies. Please find below our response for your consideration.

1. Deca -BDE:

- A.** The effectiveness of this substance as a flame retardant is currently unsurpassed. Although there are potential substitutes they have functional disadvantages.
- B.** These substitutes would need to be added to a much higher percentage thus changing important characteristics of the designed parts.
- C.** The important issue with any substitutes concerns the fire resistance requirements that demand higher effective solutions.

Conclusion: We welcome the EU decision to decide on deca-BDE based on the final risk assessment as stated in your reference "2. Applications to be evaluated – Annex".

2. Mercury in straight fluorescent lamps for special purposes:

- A.** Scanners and transparent materials adapters require the use of cold cathode fluorescent lamps that contain small amounts of mercury. They are used for the illumination of media to be scanned. Furthermore digital projectors do also need mercury in their arc-lamps (bulbs) for the performance of the product. There are currently no viable substitutes for these lamps:
- B.** (i) Xenon lamps are available, but are not acceptable because they produce less light while consuming considerably more electricity than Hg lamps.
(ii) Xenon lamps are also much larger than Hg lamps and would require extensive product redesign if used. Xenon lamps are not effective. The amount of energy delivered to the lamp, relative to a mercury-based alternative, is at least doubled. Portability is a key user requirement for digital projection products.
(iii) LED solutions are still in development and cannot currently provide enough light with the uniformity required for scanners. Acceptable LED alternative to Hg lamps should be available in 2 years at the earliest

- C. In addition to inferior functionality, Xenon lamps and LED solutions are considerably more expensive than Hg lamps and cannot cover current technological requirements.

Conclusion: The use of mercury need to be exempted for the described purposes

3. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications (with a view to setting a specific time limit for this exemption):

- A. (i) "lead in solders for servers, storage and storage array systems" and (ii)"lead in solders for network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunication" are of initial importance to our members.
AeA Europe and EICTA have already supplied detailed technical data in support of these exemptions. We urge the TAC to retain the exemptions as stipulated in the directive.
- B. Any attempt to substitute lead in servers, storage and networking products with the existing lead-free approaches for non-mission critical solutions would be premature – result in severe failure rates – and have unintended consequences on services they support.
- C. There are no proven substitutes.

Conclusion: Need to continue with these exemptions as stipulated in the directive, to ensure new substitutes to lead are feasible from a reliability perspective.

4. Lead in glass for light bulbs

AeA Europe and EICTA have no comment to make on this issue.

5. Lead used in compliant-pin VHDM (Very High Density Medium) connector system:

- A. The VHDM connector system is one of the available technology solutions to connect high pin count lines in a large server. The connector system provides the means to quickly remove and replace modules that fail in service to minimize customer impact regarding system availability.
The current compliant-pin connector system depends on lead-tin plating to provide acceptable insertion forces. If the lead content is less than 3%, the insertion forces increase so dramatically that the connector system cannot be plugged in. Substitution is hardly possible, as this would mean a dramatically different design of the equipment, which would not meet the initial requirements.
- B. Any possible substitute would need to achieve the attributes of the current solution. Work is underway to identify a suitable replacement compliant-pin coating.
- C. There are no proven substitutes for the use of tin-lead plating on pins of VHDM Connector Systems. Although there may be other alternative technologies for connecting high pin count lines in large servers, these technologies do not provide the required functional attributes or reliability of the VHDM connector system.

Conclusion: We support the exemption of that connector type using tin-lead as functional coating.

6. Lead as coating material for a thermal conduction module c-ring:

- A. There are no feasible substitutes for lead as a coating material for thermal conduction module c-rings. Although other alternative technologies to thermal conduction c-ring type may exist they do not meet the stringent functional and reliability requirements needed in server applications using the thermal conduction modules.
- B. The key component that comprises the central processing unit (CPU) of some mainframe computers is a large ceramic chip to which many devices are mounted. The ceramic chip must be capable of dissipating a lot of heat to function properly. To provide the necessary thermal conductivity, the chip carrier is sealed and the interior space filled with helium gas that exhibits excellent thermal conductivity characteristics. The only viable solution known to achieve the level of seal integrity necessary to meet the required criterion is the use of a

C-ring coated with a thin layer of lead. The C-ring, an essential part of the entire unit called a Thermal Conduction Module (“TCM”), plays a critical role in its ability to provide the desired functionality for the mainframe computer. Any substitute solution would need to address this function; none is available.

C. As there are no substitutes no further cost data can be given at this moment in time.

Conclusion: We support the exemption of the TCM solution

7. Lead and Cadmium in optical and filter glass:

A. Lead and cadmium in optical and filter glass perform specific technical functions for which there is no viable alternative. Furthermore, these heavy metals are bound into/onto the glass and unlikely to leach into the environment during end-of-life treatment.

B. Any substitute must have these characteristics:

Lens glass

- Excellent optical properties (high resolution, colour neutrality, high contrast)
- High refractive index combined with good blue, violet and UV transmission and/or special dispersion properties of glass for colour correction)
- Special wavelength transmission properties (filter effect)
- Minimize focus point change caused by temperature change

Filter glass

- IR filters are absolutely vital for the visualization of environmental damages
- Industrial image processing such as digital and scanning technologies, process monitoring and quality assurance. Red filters / IR filters and to certain extent UV filters are indispensable for the operation of advanced image processing systems for a wide range of applications. Only the use of suitable filters can guarantee the quality standard required.
- Photo scanners: a UV/IR blocking filter containing cadmium or lead is required in the optical system of these scanners

C. while the existing techniques rate excellent and high to the main functional requirements all possible substitutes (could not be identified) rate bad or low

Conclusion: The specialised uses of these metals are required for the functioning of that glass as required and need therefore to be exempted

(8) Lead in optical transceivers for industrial applications.

AeA Europe and EICTA have no comment to make on this issue.

(9) Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 85% in proportion to the tin-lead content (exemption until 2010)

A. No. There are no known feasible substitutes for the highest pin counts in microprocessors.

B. There are no known substitutes with equal reliability for high pin counts. Also alternatives contain materials with recycling restrictions.

C. There are no known substitutes with equal reliability for high pin counts.

Conclusion: This exemption is important for the European semiconductor industry.

(10) Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85% lead) and any lower melting temperature solder required to be used with high melting temperature solder to complete a viable electrical connection.

A. There are no known substitutes to lead in this particular application.

Conclusion: This exemption is critical for reliable electrical connections.

(11) Lead in solders to complete a viable electrical connection internal to certain Integrated Circuit Packages (Flip Chips).

- A.** These solders are used in critical flip chip assembly operations and at present there are no known substitutes to lead in this application.
- B.** An exemption for high temperature lead solders has already been granted in the RoHS Directive because there are no known reliable lead-free technical alternatives to its use in high performance/high reliability packages.
- C.** Low temperature (eutectic) solder has been used for many years and provides a product, which is suitable for mainstream electronics applications and there are no known reliable lead free alternatives for these applications. The amount of lead in the solder joint is less than a half compared to the high temperature lead solders which are currently exempted from the requirements of Article (4) of the RoHS directive.

Conclusion: This exemption is critical for flip chips to work.

(12) Article 4(1) substances in safety equipment for fire and rescue services

AeA Europe and EICTA have no comment to make on this issue.

(13) Lead in Lead-bronze bearing shells and bushes

AeA Europe and EICTA have no comment to make on this issue.

Additional Requests for exemptions (not part of the commission's questionnaire):

1. AeA Europe and EICTA support the request of considering the use of Tin – lead plating in Fine Pitch flexible applications.
2. AeA Europe and EICTA support the request for an exemption for lead in plating of Iron-Nickel Alloy fine-pitch electronic components.
3. AeA Europe and EICTA support the request for an exemption for lead solder used to create a viable connection between aluminium wire and copper in high temperature applications.
4. AeA Europe and EICTA support the request made to the TAC in January for an exemption for the re-use of recovered parts containing RoHS -restricted substances from old equipment (i.e. placed on the market before 1 July 2006) in new equipment from this date. Such an exemption would allow industry to re-use, rather than destroy, components and products that have not reached the end of their useful lives.
5. In addition, AeA Europe and EICTA request an exemption for the use of spare parts for performance improvement of electrical and electronic equipment put on the market before 1 July 2006.
6. An additional request will be made in line with the current exemption for spare parts addressing the conflict of refurbishment centres on a worldwide basis delivering non-compliant parts in exchange of placed on the market units into the EU area.

Kind regards,

[signature]

James Lovegrove
Managing Director AeA Europe

[signature]

Ramon Launa
EICTA Environmental Manager

AeA Europe – Established in 1990 in Brussels, AeA Europe focuses on managing issues surrounding environment and regulatory standards and the impact of EU policies on transatlantic trade, investments, jobs, research, education and community affairs throughout Europe. Members employ over 500,000 people in Europe , active throughout the high technology spectrum, from software, semiconductors and computers to Internet technology, advanced electronics and telecommunications systems and services.

EICTA – European Information, Communications and Consumer Electronics Technology Industry Association - Founded in 1999 is the voice of the Information and Communications Technology and Consumer Electronics Industry in Europe. It is composed of 48 major multinational companies and 32 national associations from 24 European countries. In all, EICTA represents more than 10,000 companies all over Europe with more than 2 million employees and EUR 200 billion in revenues.
