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Duisburg, 14.02.2012

RoHs exemption request No. 19 - online stakeholder consultation
- questionnaire

Dear ladies and gentlemen,

regarding the questionnaire file "Questionnaire_exe_19_Consultation.pdf" (25661 Bytes,no author or version given,last modified 24.01.2012 10:02:46), the following contribution to the questions given is said questionnaire is submitted herewith:

1) The applicant's request is supported as requested.
   a) The present document.
   b) The definition based on the "handcrafted production" is necessary and sufficient.
      HLDT are a custom tailored product, not a series product. Commonly designs/dimensions are manufactured only in one example for a given purpose and installation site. The variations necessary from one to the next design/dimension/site requirements do not permit any standardization to dimensions or technological constraints.
      In consequence, the exemption must not be restricted to CCFL or an electrode operating principle, as HLDT are in common use for decades bearing different discharge lamp operating principles.
      Even more, some HLDT can bear a combination of hot and cold electron emitters, HLDT are no standard products.
      (examples: DBGM G93 08 948.1, D.Pat. DE198 39 965 A1)
      So the present definition of HLDT as "handcrafted production" of luminous tubes is completely sufficient and necessary.

2.)For reduction of the mercury content several material suppliers have undertaken proprietary research where documentation is rarely available.
   For example, the company TecnoLux Italia (www.tecnolux.com) introduced a barrier coating to prevent mercury diffusion into the glass; however no information on this proprietary process is given on the website nor was responded on my multiple inquiries.
   The EGL company Inc. (Berkeley Heights, N.J., www.egl-neon.com) reported (by telephone, Mr. Sean Sulzbach on Feb. 10,2012) to be in the process of introducing said barrier layer, though there are still problems to solve due to the glass bent bent in a liquid state after coating (contrary to standard mass produced fluorescent tubes). During bending, the layer is torn so some mercury will get to the glass in the bent areas. Also the layer is incorporated sometimes into the glass and changes thermal expansion, leading to cracking of the glass in bent areas.

2.) cont'd.
Another way to reduce the mercury content was introduced in 2003 by a new electrode processing technology, permitting hot cathode lamps being manufactured by normal Cold Cathode lamp manufacturing equipment with some additions. Though dimensional restrictions apply, this technology has not gained large market share yet, even if it can be saving energy compared to normal Cold Cathode beside requiring less mercury, as mercury absorption by amalgamation in a large electrode metal shell is avoided.
(See D.Pat. DE10153009 C1 - www.hotfil.com)

3.) Usually, HLDT manufacturers are strictly observed by work safety organizations, as the have to work with open mercury.
So manufacturers usually requested to have a contract with a mercury recycling facility.
As independent expert witness not involved in the manufacture of HLDT myself, I have kindly asked some large HLDT manufacturers to provide evidence independently.

4.) I agree with no expiry date of said exemption; even more I have to contradict to the wording in said questionnaire "it will have a validity until 2021".
As the technology of HLDT and its manufacture is proven and in use for more than 100 years now (patented first 1910 by George Claude, Paris), I would suggest for the present exemption to be "re-evaluated" in 2021 for possible technology improvements at maximum, but said exemption must not simply expire at a date set arbitrarily, thereby destroying the life base of the "luminous tube glassblowers", a profession who's only product are HLDT's.

5.) The wording of the exemption shall be extended regarding the uses of HLDT, as the base of definitions of HLDT is the (manual) production process, not the application. For example, in some areas, HLDT are used for general lighting, also in combination with industrial fluorescent lamps. (for example, the interior general illumination of the Emirates Palace Hotel in Abu Dhabi is executed 95% in HLDT, or see examples in V. Barr:"The best of Neon", ISBN 09-35603-60-3, p. 65ff)
Therefore I would like to see the wording to be:
"Mercury up to 100mg per tube in handcrafted luminous discharge tubes (HLDT)."

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