Consultation Questionnaire Exemption No. 34 (renewal request)

Exemption for *„Lead in cermet-based trimmer potentiometer elements“*

Acronyms and Definitions

Cermet	Heat resistant material made of ceramic and sintered metal; here the resistive layer and the ceramic body onto which it is sintered
Pb	lead

Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract[1] for the evaluation of applications for the renewal of exemptions currently listed in Annexes III of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.[1]

Knowles et al. submitted a request for the renewal of the above mentioned exemption, which has been subject to a first completeness and plausibility check. The applicant has been requested to answer additional questions and to provide additional information, to be made available on the request webpage of the stakeholder consultation (http://rohs.exemptions.oeko.info/index.php?id=228).

The objective of this consultation and the review process is to collect and to evaluate information and evidence according to the criteria listed in Art. 5 (1) (a) of Directive 2011/65/EU (RoHS II), which can be found under:

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011L0065:EN:NOT

If you would like to contribute to the stakeholder consultation, please read the following summary of the exemption requests and answer the below questions.

Summary of Exemption Request

History of the Exemption

The exemption was for reviewed once in 2007[2]. The applicant requested this exemption claiming that exemptions 5 and 7 in the annex of Directive 2002/95/EC (RoHS 1) in their 2006/2007 format did not cover the use of lead in these cermet based trimmer potentiometers:

- *No. 5: Lead in glass of cathode ray tubes, electronic components and fluorescent tubes, and*
- *No. 7: Lead in electronic ceramic parts (e.g. piezoelectronic devices)*

[1] Contract is implemented through Framework Contract No. ENV.C.2/FRA/2011/0020 led by Eunomia

[2] For details see report of (Gensch, Carl-Otto, Stéphanie Zangl, and Otmar Deubzer 2007) “Adaptation to scientific and technical progress under Directive 2002/95/EC: Final report.” Accessed August 11, 2015. http://ec.europa.eu/environment/waste/weee/pdf/rohs.pdf., page 18 et seqq.

The manufacturer said that this resistive layer in the cermet-based trimmer potentiometer is a homogeneous material, as it can be mechanically separated from the ceramic base. This homogeneous material, the thick-film layer containing the lead, for itself is neither a glass nor a ceramic material.

Ex. 11 of annex II in Directive 2000/53/EC (ELV Directive), the equivalent to exemption 7c-I of RoHS Annex III, was reviewed in 2007/2008[3]. The stakeholders decided that the wording in the ELV Directive covers applications like lead in cermet based trimmer potentiometers.

In the next review of RoHS exemption 7c in 2008/2009[4], it was therefore decided to adopt the wording of ELV Ex. 11 with further slight adaptations, which are reflected in the current wording of RoHS 2, Ex. 7c-I:

Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

Summary of Current Request:

GE Healthcare et al. requested the continuation of the exemption without changes for another maximum of five years. Even though they admit that the current Ex. 7c-I in Annex III of the RoHS Directive covers the use of lead in cermet-based trimmer potentiometer elements, the applicants plea to maintain exemption 34 as a separate exemption to avoid confusion.

For details, please check the applicants' exemption request at:
http://rohs.exemptions.oeko.info/index.php?id=256

Questions

1. Bourns has developed lead-free inks for low to mid-range resistance values, which are used on the trimming potentiometer products[5]. These substitutes are a form of calcium silicate borate glass. The applicability varies depending on the application of the part.

   Do you know of similar developments of successfully applied lead-free solutions for cermet-based trimmer potentiometers that can at least partially replace the use of lead in this application?

[3] Lohse, Joachim; Gensch, Carl-Otto; Groß, Rita; Zangl, Stéphanie; [Öko-Institut e.V.]; Deubzer, Otmar, Fraunhofer IZM (2008): Adaptation to Scientific and Technical Progress of Annex II Directive 2000/53/EC. Final Report - Amended Final. Öko-Institut e. V., Fraunhofer IZM. Freiburg (Adaptation to Scientific and Technical Progress of Annex II Directive 2000/53/EC). Online verfügbar unter https://circabc.europa.eu/sd/a/f5d79a51-2e5a-47eb-85d3-7b491ae6a4b3/Final_report_ELV_2008_Annex_II_revision.pdf; page 65 et seqq.

[4] Carl-Otto Gensch, Öko-Institut e. V., et al. (2009): Adaptation to scientific and technical progress under Directive 2002/95/EC. Final Report. Unter Mitarbeit von Stéphanie Zangl, Rita Groß, Anna Weber, Öko-Institut e. V. und Otmar Deubzer, Fraunhofer IZM. Freiburg. http://ec.europa.eu/environment/waste/weee/pdf/final_reportl_rohs1_en.pdf; http://ec.europa.eu/environment/waste/weee/pdf/report_2009.pdf; page 98 et seqq.

[5] See Bourns' answers to the clarification questionnaire of exemption 7c-I (http://rohs.exemptions.oeko.info/index.php?id=245)

2. Do you agree with the above proposal of GE Healthcare et al.
    a. to maintain exemption 34 as a separate exemption instead of integrating it into the scope of exemption 7c-I?
    b. to continue the exemption for another maximum validity period of five years with the current wording?
    c. Do you agree with the scope and proposed formulation, and the validity period of the exemption as proposed by the applicants? Please take into account the answers to question 1.
    d. Please suggest an alternative wording and explain your proposal, if you do not agree with the proposed exemption wording and requested validity period.
    e. Please explain why you either support the applicants' request or object to it. To support your views, please provide detailed technical argumentation / evidence in line with the criteria in RoHS Art. 5(1)(a).

3. Are there any other aspects you deem to be of importance for the future of the requested exemption?

In case parts of your contribution are confidential, please provide your contribution in two versions (public /confidential). Please also note, however, that requested exemptions cannot be granted based on confidential information!

Finally, please do not forget to provide your contact details (Name, Organisation, e-mail and phone number) so that Oeko-Institut/Fraunhofer IZM can contact you in case there are questions concerning your contribution.

References

Carl-Otto Gensch, Öko-Institut e. V., et al. (2009): Adaptation to scientific and technical progress under Directive 2002/95/EC. Final Report. Unter Mitarbeit von Stéphanie Zangl, Rita Groß, Anna Weber, Öko-Institut e. V. und Otmar Deubzer, Fraunhofer IZM. Freiburg. http://ec.europa.eu/environment/waste/weee/pdf/final_reportl_rohs1_en.pdf; http://ec.europa.eu/environment/waste/weee/pdf/report_2009.pdf

(Zangl, Stéphanie, Öko-Institut e.V. 30 May 2011) Adaptation to Scientific and Technical Progress under Directive 2002/95/EC: Evaluation of New Requests for Exemptions and/or Review of Existing Exemptions. With the assistance of Otmar Deubzer, Fraunhofer IZM, Ran Liu, Öko-Institut e.V., and Katja Moch, Öko-Institut e.V. Adaptation to Scientific and Technical Progress under Directive 2002/95/EC; RoHS Exemption Reviews. Freiburg: . Final Report. http://rohs.exemptions.oeko.info/fileadmin/user_upload/RoHS_IV/RoHS_final_report_May_2011_final.pdf.