

Consultation Questionnaire Exemption No. 7c-I (renewal request)

Exemption for "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"

Acronyms and Definitions

JEITA	Japan Electronics and Information Technology Industries Association
Pb	lead
ZVEI	Zentralverband Elektrotechnik- und Elektronikindustrie

Background

The Oeko-Institut and Fraunhofer IZM have been appointed within a framework contract¹ 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

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>

Bandelin, Bourns, JEITA et al., Murata et al., Ralec, Schott, Sensata and Yageo submitted requests for the renewal of the above mentioned exemption, which have been subject to a first completeness and plausibility check. The applicants have 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=245>).

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

Summary of the Exemption Requests

History of the Exemption

The exemption was already listed in the annex of Directive 2002/95/EC (RoHS 1) when it entered into force in 2003, but split into exemption 5 and 7:

5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
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

The exemption was reviewed once in 2008/2009 and thereupon transferred into the current exemption wording.²

Summary of the Exemption Requests

The applicants manufacture different components or electrical and electronic devices, or associations representing relevant stakeholders, but all applicants request in principle the exemption be renewed without scope limitations.

JEITA et al. as well as Murata et al. propose to change the wording of Ex. no. 7c-I in order to clarify the scope of the exemption:

*“Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in **discrete** capacitor **components**, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound”*

JEITA and Murata et al. state that the term “capacitors” has been mistaken for “electrostatic capacitance”. Since all ceramic components have electrostatic capacitance, it has been interpreted that Pb in all ceramic components (including ICs and boards) for a rated voltage of 125 V AC or less, or 250 V DC or less, are included in the technical scope of exemption 7c-III (*Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC*), which expired on 31 December 2012,

The proposed change in wording of exemption 7c-I is aimed at clarifying the scope of both exemption 7c-I and indirectly 7c-III. Exemption 7c-I would then clearly allow the use of lead in the ceramic of all electrical and electronic components, excluding only lead in dielectric ceramics of discrete capacitor components with less than 125 V AC or 250 V DC, which exemption 7c-III no longer allows. The applicants state that this rewording of exemption 7c-I does not enlarge the scope of the exemption.

Although the exemption covers a range of application fields for lead glass, lead ceramics and lead glass-ceramic materials, and even though some of the applicants have specific applications for these materials, none of the applicants besides Bandelin proposed a specification of the exemption request.

For details, please check the applicants' exemption requests at:

<http://rohs.exemptions.oeko.info/index.php?id=245>

Questions

1. JEITA and Murata et al. requested the renewal of exemption no. 7c-I of Annex III, however, with a slightly changed wording as explained above:

*“Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in **discrete** capacitor **components**, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound”*

² (Carl-Otto Gensch, Öko-Institut e. V., et al. 19 February 2009) *Adaptation to scientific and technical progress under Directive 2002/95/EC: Final Report*. With the assistance of Stéphanie Zangl, Rita Groß, Anna Weber, Öko-Institut e. V. and Otmar Deubzer, Fraunhofer IZM. Freiburg: . Accessed July 14, 2015. http://ec.europa.eu/environment/waste/weee/pdf/final_report_rohs1_en.pdf; http://ec.europa.eu/environment/waste/weee/pdf/report_2009.pdf, page 89 et seqq.

- a. Do you agree with the scope and proposed formulation of the exemption as proposed by the applicants?
 - b. Please suggest an alternative wording and explain your proposal, if you do not agree with the proposed exemption wording.
 - c. Please explain why you either support the applicant's request or object to it. To support your views, please provide detailed technical argumentation / evidence in line with the criteria in Art. 5(1)(a) to support your statement.
2. Provided the above proposed change of wording is acceptable, and provided the exemption does not require a further rewording as an outcome of the review, the entire 7c series of exemptions could be simplified, and the scope could be clarified as follows:

*7c-I: Electrical and electronic components containing lead in a glass or ceramic, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
This exemption does not cover the uses of lead in the scope of exemptions 7c-II and 7c-III.*

*7c-II: Lead in dielectric ceramic in **discrete** capacitor **components** for a rated voltage of 125 V AC **or higher**, or **for a rated voltage of 250 V DC or higher**³*

*7c-III Lead in dielectric ceramic in discrete capacitor components for a rated voltage of less than 125 V AC, or **for a rated voltage of less than 250 V DC**;
Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013*

Please explain whether you deem the above rewording of the exemption viable and appropriate.

3. Please provide information concerning possible substitutes or developments that may enable reduction, substitution or elimination, at present or in the future, of the Pb use in the scope of exemption 7c-I;
 - a. In this regard, please provide information as to alternatives that may cover part or all of the applicability range of Pb in high melting point solders;
 - b. Please provide quantitative data as to application specifications to support your view.

4. So far, the following application fields have been identified for exemption no. 7c-I:
 - I. PZT ceramics
 - II. Dielectric ceramics
 - III. PTC ceramics
 - IV. Thick-film technology

³ ZVEI et al. submitted an exemption request for the continuation of exemption 7c-II. ZVEI et al. proposed this rewording of exemption 7c-II in this exemption request in order to clarify the scope.

If the provided information suggests that the scope of Ex. no. 7c-I should be specified, please explain whether the above application specification is adequate, otherwise complete it or propose a different specification.

5. Please provide information as to research initiatives which are currently looking into the development of possible alternatives for some or all of the application range of Pb in Ex. no. 7c-I.
 - a. Please explain what part of the application range is of relevance for such initiatives (in what applications substitution may be possible in the future).
 - b. Please provide a roadmap of such on-going research (phases that are to be carried out), detailing the current status as well as the estimated time needed for further stages.

6. Are there any other aspects you deem to be of importance for 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.