

Comments related to the general and specific questionnaires of exemption 5

Japan Business Council in Europe

We expressly state the comments mainly concerning the necessity of continued application of exemptions and the difficulty of substitution for the consultation of RoHS exemption 5.

In this document, we make our comments concerning lead in glass of electronic components.

Note : As for the previous contribution coordinated and supported by JBCE, we would like you to give enough consideration to the fact that we refer to the presentation file (attached file (No.1) which JEITA, Japanese ICT Organization, contributed by the time of the final report on the revision of exemption no.11 "Electrical components which contain lead in glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs" of ELV Directive.

General Questionnaire

1. For which substance(s) or compound(s) should the requested exemption be valid?

Lead in glass of electronic components

2. What is the application in which the substance/compound is used for and what is its specific technical function?

Please see the attached file *(No2).

In this excel file JEITA has summarized, through its best efforts, the results obtained from a survey of 57 electronic component manufacturers from Japan. However, it should be understood that this is not the opinion of ALL stakeholders.

We also would like to request you to treat this material as “**CONFIDENTIAL**” and thus not make it public.

3. What is the specific (technical) function of the substance/compound in this application?

Please see the attached file (No2)

4. Please justify why this application falls under the scope of the RoHS Directive (e.g. is it a finished product?

Please see the attached file (No2)

5. What is the amount (in absolute number and in percentage by weight) of the substance/compound in: i) the homogeneous material, ii) the application, and iii) total EU annually for RoHS relevant applications?

Please see the Attached file (No. 2) concerning applications.

However, regarding the amount put on the EU market, since the concerned electronic components are ultimately used in many electric and electronic products and there is no objective statistical material about the amount used or transported into the EU we cannot present concrete figures.

6. Please check and justify why the application you request an exemption for does not overlap with already existing exemptions respectively does not overlap with exemption requests covered by previous consultations.

Not applicable – this is only for new exemption requests

7. Please provide an unambiguous wording for the (requested) exemption.

Lead in glass of electronic components.

8. Please justify your contribution according to Article 5 (1) (b) RoHS Directive whereas:

8-1. Substitution of concerned hazardous substances via materials and components not containing these or

elimination or substitution of concerned hazardous substances via design changes is technically or scientifically either practicable or impracticable;

There are materials and applications for which material substitute candidates exist and materials and applications for which no estimate of material substitutes exist at all.

Please see attached file (No.2) for examples of materials and applications for which there exists no estimate at all of material substitutes are shown in Please see attached file (No.2)*.

8-2. Negative environmental, health and/or consumer safety impacts caused by substitution are either likely or unlikely to outweigh environmental, health and/or consumer safety benefits thereof (If existing, please refer to relevant studies on negative or positive impacts caused by substitution).

1) Environmental load associated with manufacturing and refinement

We have found a report quantifying the environmental load of various metals with an index of "Total Materials Requirement (TMR)" produced by the Eco Material Center of the National Institute for Material Science.

Total Materials Requirement (TMR) : Total amount of global resources involved in production "Efficient use of resources and influence on environment during the entire lifetime of the substance and material cycle"

http://www.lifecycle.jp/manual/coefficient_of_resources.pdf (P26)

According with this report, bismuth and niobium indicated as substitute materials for lead are estimated to have a larger environmental load due to their scarcity.

Comparison of TMR

lead	95	(comparative criterion)
bismuth	150,000	(approximately 1500 times)
niobium	1,400	(approximately 14 times)

Also, as bismuth is obtained as a by-product of lead ore, if bismuth is to be obtained, lead is always produced. If it is not used, a corresponding amount of energy is required to dispose it.

9. Please provide sound data/evidence on why substitution / elimination is either practicable or impracticable (e.g. what research has been done, what was the outcome, is there a timeline for possible substitutes, why is the substance and its function in the application indispensable or not, is there available economic data on the possible substitutes, where relevant, etc.).

Please see the attached file (No2) and (Data a-f).

10. Please also indicate if feasible substitutes currently exist in an industrial and/or commercial scale for similar use.

There are materials and applications for which material substitute candidates exist and materials and applications for which no estimate of material substitutes exist at all.

Please see attached file (No.2) for examples of materials and applications for which there exists no estimate at all of material substitutes are shown in Please see attached file (No.2)*.

11. Please indicate the possibilities and/or the status for the development of substitutes and indicate if these substitutes were available by 1 July 2006 or at a later stage.

Please see 8-1 and 8-2.

12. Please indicate if any current restrictions apply to such substitutes. If yes, please quote the exact title of the appropriate legislation/regulation.

None

13. Please indicate benefits / advantages and disadvantages of such substitutes.

See 8-2.

14. Please state whether there are overlapping issues with other relevant legislation such as e.g. the ELV Directive that should be taken into account.

ELV exemption no. 11 'Electrical components which contain lead in glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs' is an overlapping issue that should be taken into account.

15. If a transition period between the publication of an amended Annex is needed or seems appropriate, please state how long this period should be for the specific application concerned.

As explained in Attached File (No.1), a roadmap for expiry of the current exemption cannot be provided at present because no alternatives for lead-containing glasses exist.

Even for the cases when a substitute material candidate exists or there is a newly developed material in place,

a great deal of time is required not only for development and reliability evaluation of the component but also for replacement and reliability evaluation of the final product application, furthermore as the range of products is as wide as to comprise almost all electric and electronic products and the number of pieces used is extremely numerous, if an appropriate transition period is not established there is a very real possibility of creating confusion in the market.

In order to establish an appropriate transition period there are high expectations that a survey will be conducted by the EU Commission for that purpose.

In this case JBCE is ready to actively cooperate with that survey.

Specific Questionnaire

1. Please specify in detail the "electronic components" in the wording above where lead is used in glass.

Please see the attached excel file(No2).

2. 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 put on the EU market annually in applications falling under the scope of RoHS for

b. electronic components (if possible specified in more detail, see question 1)

Please see the Attached file (No. 2) concerning applications.

However, regarding the amount put on the EU market, since the concerned electronic components are ultimately used in many electric and electronic products and there is no objective statistical material about the amount used or transported into the EU we cannot present concrete figures.

3. Please provide detailed information about the specific function and related performance criteria of lead in glass for

b. electronic components (if possible specified in more detail, see question 1)

Please see the attached file(No2).

4. What technical characteristics do substitutes need to fulfil as a minimum requirement?

Please see the attached file(No2).

5. Please provide evidence that manufacturers have put effort in research on alternatives for lead. What are the alternatives to lead and which ones are (likely to be) used as substitutes? Are there any results about strengths and weaknesses expressed in results relating to (technical) performance criteria?

Please see the attached file(No2).

6. Are manufacturers still investigating alternatives?

b. If no, please explain and justify why no further research has been undertaken against the background that the RoHS Annex is subject to regular revisions.

As shown in the attached file (No.2) and (Data a-f), no effective substitute materials exist for the application. However, if in the future substitutive materials can be developed, electronic component manufacturers will proceed substitution.

7. Assuming the current exemption will be given an expiry date, what date do you think is technologically feasible for industry?

As explained in Attached File (No.1), a roadmap for expiry of the current exemption cannot be provided at present because no alternatives for lead-containing glasses exist.