

Consultation Questionnaire Exemption No. 8(g)

Review of exemption 8(g) “Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages”

Abbreviations and Definitions

FCP flip chip package

Background

The Öko-Institut together with Fraunhofer IZM has been appointed by the European Commission within a framework contract¹ for the review of exemptions in Annex II of Directive 2000/53/EC (ELV Directive). The aim of this project is to evaluate whether the use of lead in the above mentioned exemption is still unavoidable and the continuation of the exemption is therefore justified in line with Art. (4)(2)(b)(ii) of the ELV Directive.

The above exemption 8(g) is also listed in Annex III of Directive 2011/65/EU (RoHS Directive) as exemption no. 15.

The exemption had been reviewed in 2008/2009 under the RoHS Directive, and it had been assessed that the use of lead in this exemption is still required². The exemption in Annex III of the RoHS Directive will expire in July 2016.

Annex II of the ELV Directive was reviewed in 2009. Based on the insights and arguments the stakeholders had presented in the preceding review of exemption 15 in the RoHS Directive, it was assessed that the use of lead in FCP was still unavoidable, as these arguments have been found to be valid for automotive applications as well.³

Questions

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

² For details see Öko-Institut (2009), pages 176 to 190

³ For details see Öko-Institut (2010), pages 137 and 138

1. Please explain whether the use of lead in this application is still unavoidable so that Art. 4(2)(b)(ii) of the ELV Directive would justify the continuation of the exemption.

2. In case the substitution of lead is not viable, please explain the efforts you undertook to find a lead-free alternative.

3. Please indicate how much lead would be used under this application and substantiate the amount of lead with a calculation for vehicles put on the European market, and worldwide.

4. Please provide a roadmap towards ELV-compliance if the use of lead is still unavoidable. Please break down the roadmap into stages to be performed and present and explain the related timelines.

2 References

- Ökoinstitut 2010 Stéphanie Zangl et al., Ökoinstitut; Otmar Deubzer, Fraunhofer IZM: Adaptation to scientific and technical progress of Annex II to Directive 2000/53/EC (ELV) and of the Annex to Directive 2002/95/EC (RoHS), final report; Freiburg, 28 July 2010; http://elv.exemptions.oeko.info/fileadmin/user_upload/Final_Report/Corr_Final_report_ELV_RoHS_28_07_2010.pdf, or https://circabc.europa.eu/sd/d/a4bca0a9-b6de-401d-beff-6d15bf423915/Corr_Final%20report_ELV_RoHS_28_07_2010.pdf; last accessed 4 September 2013
- Öko-Institut 2009 Carl-Otto Gensch, Stéphanie Zangl, Rita Groß, Anna K. Weber, Öko-Institut; Otmar Deubzer, Fraunhofer IZM: Adaptation to scientific and technical progress under Directive 2002/95/EC; final report, 19 February 2009; retrievable from http://ec.europa.eu/environment/waste/weee/pdf/report_2009.pdf; last accessed 4 September 2013