

CELMA DOM(SM)265A

**CELMA replies to Öko Institute on CELMA RoHS Exemption request for  
“Lead in solder to join/coat copper foil jointing strips to provide a permanent bond”**

20 June 2012

## **Questionnaire for Further Clarification**

### **Exemption Request “Lead in solder to join/coat copper foil jointing strips to provide a permanent bond”**

#### **Background**

The Öko-Institut together with Fraunhofer IZM has been appointed within a framework contract for the evaluation of applications for granting, renewing or revoking an exemption to be included in or deleted from Annexes III and IV of the new RoHS Directive 2011/65/EU (RoHS 2) by the European Commission.

You have submitted the above mentioned request for exemption which has been subject to a first completeness and understandability check. As a result we have identified that there is some information missing and a few questions to clarify before we can proceed with the online stakeholder consultation on your request. Therefore we kindly ask you to provide answers for the following questions and to reformulate your request if necessary.

#### **Questions**

1. Please provide a proper wording proposal and an expiry date for this exemption.

**CELMA reply to question 1:** please explain what form of words is required to replace the wording of the original exemption request? In terms of an expiry date we would suggest 2018 at which point any advances in technology or changes in world markets can be assessed.

2. The scope of this exemption request is not clear. For which products exactly are the copper foil jointing strips used?

**CELMA reply to question 2:** Copper foil strips joined together with lead solder are used in the production of Tiffany style lanterns, shades and other decorative lighting fixtures such as wall lights and pendants. The same process is also used in the manufacture of traditional glass lanterns for interior and exterior use.

3. Please provide a substantiated calculation of the amounts of lead that would be used in this application worldwide and in Europe.

**CELMA reply to question 3:** Owing to the small level of production and the fact that all suppliers are small SME's there is no data available for sales of Tiffany and traditional glass lanterns either worldwide or in the EU. Response from UK suppliers suggest the market is worth approximately 2.5m Euros in the UK and perhaps 13m Euros across the member states. Calculating the lead content from a number of typical fixtures (see appendix) provides an average figure of 24.5% lead by weight of the product. In order to estimate the quantity of lead placed on the market we can calculate that on average 0.0048kg of lead is used per UK pound (equates to approximately 0.0041kg per Euro of sales) which leads us to an estimate of 53.3 tonnes for the EU per annum. We do not have figures for total lead consumption within the EU but understand that collectively the member states production of lead is around 2 million tonnes and that the EU is also a net importer of lead. Our estimates are that production of specialist lighting accounts for approximately 0.0002% of all lead consumed in the EU.

4. Please explain in detail why the use of lead-free solders is technically impossible in this application.

**CELMA reply to question 4:** The use of lead-free solders is not technically impossible in these applications, however, lead free solder must be melted at a higher temperature and the process is consequently slower and more expensive. Furthermore lead-free solder is more brittle and less suited to the production of artisan produced shades and this leads to greater reject levels and consequently higher costs. The majority of Tiffany suppliers produce around 90% of their production for the US market where there is no requirement to use lead-free solder and therefore all production facilities are geared for lead solder. The relatively small sales of EU Tiffany and other leaded glass lanterns make it unviable for suppliers to set up separate production runs for lead-free products which is partly responsible for the high cost increases quoted.

5. You argue that the use of lead-free solders would increase cost for 70 %. What is the 100 % baseline for this cost increase? How would the price of the final product increase?

**CELMA reply to question 5:** The cost increase of 70% is based on a number of quotations from manufacturers on an FOB basis to EU suppliers. The base cost is the FOB price of products within the scope described using the traditional low temperature lead solder. The 70% increase refers to the FOB cost quoted by the same suppliers to produce identical product with lead free solder. The final price would therefore also increase by 70% as the same mark-up will be applied by the supply chain.

6. Why do you ask for this exemption in 2012, while the RoHS Directive bans the use of lead in this application since 2006 already? How did you succeed to produce RoHS-compliant products for the European market in the past six years?

**CELMA reply to question 6:** Many EU suppliers have claimed they are RoHS compliant in respect of the use of lead in such products as described in the scope above and they have been declared in compliance with the Directive by the component suppliers. There was little or no market surveillance activity except in the UK in 2010/11 by the National Measurement Office. UK market surveillance highlighted some non-conformity. In

attempting to comply, these UK companies were faced with significant increases in cost which would make them uncompetitive in the EU market. On questioning other Trade Lighting Associations in Europe, it appeared there was no perceived problem. However, after conducting laboratory tests on other EU supplied product we discovered that companies claiming RoHS compliance were using incompliant components. Once the scope of this problem was highlighted, CELMA members agreed to apply for an exemption.

(One elegant solution to this problem and others such as the lead and cadmium in glaze issue is to remove the decorative elements of domestic lighting from the scope of the RoHS Directive and apply it only to the electrical parts. We understand that a new position of the European Commission on the subject of furniture with a secondary electrical function, such as a wardrobe with built in light, that the wardrobe will be outside the scope but the light element will remain within it).

#### Other relevant information from CELMA

The average life of a consumer luminaire is over 20 years and for high value products such as Tiffany shades and leaded glass lanterns is much longer. If consumers tire of these products they are usually sold on rather than disposed of as waste.