



CELMA

*Federation of National Manufacturers Association for
Luminaires and Electrotechnical Components for
Luminaires in the European Union*

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**CELMA RoHS EXEMPTION REQUEST
FOR DECORATIVE CERAMIC LAMP BASES OR OTHER CERAMIC COMPONENTS OF
LUMINAIRES CONTAINING LEAD AND/OR CADMIUM IN THE GLAZE/COLOURING**

*Note: **CELMA** is the Federation of National Manufacturers Associations for Luminaires and Electrotechnical Components for Luminaires in the European Union. CELMA represents 18 Manufacturers Associations from 13 EU countries, over 1,000 companies (majority of small and medium-sized enterprises), 107,000 people employed in Europe and generates 15 billion euros annual turnover in Europe. For more information about CELMA please visit www.celma.org.*

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EUROPEAN COMMISSION
DIRECTORATE-GENERAL
ENVIRONMENT
ENV.G - Sustainable Development & Integration
ENV.G.4 - Sustainable Production & Consumption

**DIRECTIVE 2002/95/EC ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS
SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS).**

CHECK LIST FOR REQUESTS FOR ADDITIONAL EXEMPTIONS

Industry has sent to the Commission's services a number of requests for exemptions from the requirements of the RoHS Directive that are additional to those currently covered by the study and the stakeholder consultation. In most cases these are not substantiated by scientific and technical evidence. The proposed check-list will enable the Technical Adaptation Committee (TAC) to carry out a first screening of the requests received. Proposals that successfully pass the screening process will then be considered for a possible exemption.

Article 4(1) of Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment¹ provides ‘that from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, PBB or PBDE.’ The Annex to the Directive lists a limited number of applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4(1).

Adaptation to scientific and technical progress is provided for under Article 5 of the Directive. Pursuant to Article 5(1): “Any amendments which are necessary in order to adapt the Annex to scientific and technical progress for the following purposes shall be adopted in accordance with the procedure referred to in Article 7(2):”

Article 5(1)(b) allows the exempting of materials and components of electrical and electronic equipment from Article 4(1) if their elimination or substitution via design changes or materials and components which do not require any of the materials or substances referred to therein is technically or scientifically impracticable, or where the negative environmental, health and/or consumer safety impacts caused by substitution are likely to outweigh the environmental, health and/or consumer safety benefits thereof;

In order to allow the TAC to consider submissions for additional exemptions, the information in Table I should be provided as a first step. The request for submissions should fulfil the criteria of Article 5(1)(b). The information provided should be supported, as far as possible, with relevant technical and scientific evidence.

¹ OJ L 37, 13.2.2003, p. 19

TABLE I – CHECK LIST

PROPOSALS FOR FURTHER EXEMPTIONS FROM THE REQUIREMENTS OF ARTICLE 4(1) OF DIRECTIVE 2002/95/EC FOR SPECIFIC APPLICATIONS OF LEAD, MERCURY, CADMIUM, HEXAVALENT CHROMIUM.

Criteria	Information
<p>1. Please describe the material / component of the electrical and electronic equipment that contains the hazardous substance.</p>	<p>Decorative ceramic lamp bases or other ceramic components of luminaires containing lead and/or cadmium in the glaze/colouring.</p> <p>These products can be specifically designed as a lamp base or can be a traditional glazed ceramic vase/pot etc “converted” to be used as a lamp base (in many cases from a prestige brand company e.g. Meissen, Delft, Portmeirion, Royal Doulton etc). These products are used in stately homes, palaces, hotels, theatres, restaurants etc and in normal homes for decorative ambiance.</p> <p>In the case of converted products, the lead glazed vase etc is not covered by RoHS but the converted electrical lamp base is effectively banned.</p>
<p>Please indicate the type and quantity of the hazardous substance used in the homogenous material. Please indicate the quantity of the substance in absolute numbers and in percentage by weight in homogenous material.</p>	<p>Lead and Cadmium are components of the glazes and colourings used to glaze or ceramic lamp bases or other ceramic components of luminaires.</p> <p>Lead is used in glazes and colourings.</p> <p>Cadmium is predominantly used to provide a bright red/orange colour.</p> <p>It is impossible to quote absolute numbers because of the variability of the articles in question (type of colour, glaze thickness etc).</p> <p>Treating just the glaze as a homogeneous material (as it forms a coating layer that could be ground away) the lead content is generally</p>

	<p><30%.</p> <p>The levels of cadmium, where used, would be much lower at around 1%.</p>
<p>Please indicate the functionality of the substance in the material of the equipment.</p>	<p>Decorative lighting products are, as their name suggests, a decorative item where the aesthetics are equally, if not more important to the consumer than the functionality.</p> <p>Without the aesthetic ability of the luminaire (lamp base/components) to match corresponding items of a decorative nature (e.g. vases, jugs, plates etc) the luminaire (lamp base/components) may not be purchased.</p> <p>The aesthetic quality of the product is achieved through using the same glazes, colourings and processes as used for other ceramic items.</p> <p>Lead lowers the glaze melting point and as a silicate glaze gives a smooth, glossy, bright finish. It is also used to provide special effects (reactive glazes).</p> <p>Cadmium provides bright red/orange colours.</p> <p>In all cases the materials are fired with or onto the ceramic base. Essentially the glaze forms a glassy phase on the exterior surface(s) of the ceramic base. Similarly the firing process incorporates the decoration or colours into the glassy phase. The result is an extremely stable, resistant, insoluble and permanent cover or finish to the ceramic article. Only severe abrasion or chemical attack can cause even marginal release of any of the components.</p> <p>Ceramic luminaires (lamp base/components) are produced in exactly the same way as Ceramic Tableware to which stringent standards apply, originally as Directive 84/500 EC revised as 2005/31 EC. The</p>

	Directive sets limits for Lead and Cadmium release for articles in contact with food where any human exposure would otherwise be an issue.
Please also provide an estimate of the annual quantities of the hazardous substance used in this particular application.	Previous studies by Óko Institute estimate less than 5000 t per year for lead and less than 25 t per year for cadmium in Europe for lighting.
2. Please explain why the elimination or substitution of the hazardous substance via design changes or materials and components is currently technically or scientifically impracticable.	It is impossible to reproduce the aesthetic effects currently possible without the use of lead and cadmium in the glaze. Many colours, decorative finishes etc would no longer be possible for luminaires (lamp base/components) even though the same finishes would remain available and totally acceptable for other ceramic products.
3. Please indicate if the negative environmental, health and/or consumer safety impacts caused by substitution are likely to outweigh the environmental, health and/or consumer safety benefits. If existing, please refer to relevant studies on negative impacts caused by substitution.	There are no environmental or consumer safety benefits to be gained by the application of RoHS to ceramic luminaires (lamp base/components). Ceramic luminaires (lamp base/components) are manufactured to the same standards as conventional tableware.
4. Please indicate if feasible substitutes currently exist in an industrial and/or commercial scale.	Lead free glazes do exist but these cannot replace lead glazes in many applications. The reduction in available finishes will reduce consumer choice and disadvantage producers of lighting products. In most cases ceramic luminaires (lamp base/components) are produced on the same production line as table ware, vases, jugs, ashtrays etc and cannot be processed differently.
Please indicate the possibilities and/or the status for the development of substitutes and indicate if these substitutes will be available by 1 July 2006 or at a later stage.	Not possible as above.
5. Please indicate if any current	N/A

<p>restrictions apply to such substitutes.</p> <p>If yes, please quote the exact title of the appropriate legislation/regulation.</p>	
<p>6. Please indicate the costs and benefits and advantages and disadvantages of such substitutes.</p> <p>If existing, please refer to relevant studies on costs and benefits of such substitutes.</p>	<p>N/A</p>
<p>7. Please provide any other relevant information that would support your application for an additional exemption.</p>	<p>The European Waste Catalogue defines fired ceramic waste as non-hazardous, recognising the way in which the constituents are bound.</p> <p><u>Socio-economic factors (RoHS2)</u> Many luminaires (lamp base/components) are manufactured in small quantities and by SMEs. SMEs do not have the purchasing power to demand changes to production techniques and processes where most products do not need to comply with RoHS. Other SMEs purchase a ceramic vase etc and convert it into a lamp base.</p> <p>In all cases these types of ceramic luminaire (lamp base/components) would have to be withdrawn from the market leading to not only lost sales for the lamp bases but possibly also for the associated matching vases, tableware etc.</p> <p>Due to this loss of high value business many SMEs would be under extreme financial pressure and possibly have to close down. The loss of business in the UK alone would be around £4m and is estimated across Europe to be in excess of 30m Euros.</p>