



**DIRECTIVE 2011/65/EU<sup>1</sup> ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS  
SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (ROHS).**

**REQUESTS FOR ADDITIONAL EXEMPTION**

**PROPOSALS FOR FURTHER EXEMPTIONS FROM THE REQUIREMENTS OF ARTICLE 4(1) OF  
DIRECTIVE 2011/65/EU FOR SPECIFIC APPLICATIONS OF LEAD, MERCURY, CADMIUM,  
HEXAVALENT CHROMIUM.**

**Mercury in cold cathode fluorescent lamps for general lighting purposes (Category 5).**

**Submitted by: ANIE Federazione with one of its federated associations - Associazione Nazionale Produttori Illuminazione**

**ANIE Federazione** represents the electrotechnical and electronic companies operating in Italy. With its 10 Associations, ANIE unites strategic players to deliver significant support to the growth of the national industry network and to contribute to its success on international markets. The Federation promotes the competitiveness of member companies with reference to different production factors. It maintains relations with Italian and international authorities and institutions to protect the sector's interests.

<b>Criteria</b>	<b>Information: Please provide supporting technical and scientific evidence</b>
<b>a)</b> Name address and contact details of the applicant;	<b>ANIE Federazione</b> Via Vincenzo Lancetti, 43 20158 Milano, Italy Phone: +39 02.3264.317 Fax: +39 02.3264.212
<b>b)</b> Information on the material or component and the specific uses of the substance in the	Specific constructional characteristics for CCFLs for General Lighting purposes:

<sup>1</sup> OJ L 174, 1.7.2011, p. 88

Criteria	<b>Information:</b> <b>Please provide supporting technical and scientific evidence</b>
<p>material and component for which an exemption, or its revocation, is requested and its particular characteristics;</p>	<ol style="list-style-type: none"> <li>1. <b>Dimensions:</b> Lamps often are made to follow the profile of the building / room structure and this imply that lamps will have specific (and not standard) rounded curves (also with small radius) on every geometrical axe. Diameters and lengths varies a lot from case to case. In most cases, diameters vary from 5 to 38 mm and length from 0,5 to 3 m (and beyond).</li> <li>2. <b>Electricals:</b> Current intensity in-between 20 and 200 mA in order to emit the proper flux according to the intended use and the dimensions of the lamps. Operating voltage varies from 250 V to 1500 V. Lamp powers are mostly from 10 W to 140 W. Approximately, the lamp power is the sum of power absorbed by the two electrodes and by the discharge tube which it is related to the diameter and to the rare gas compound and its pressure.</li> <li>3. <b>Operating:</b> The Colour of the light varies for different application needs. The luminous flux can easily be between 400 and 10000 lm per lamp (for three-phosphor lamps).</li> <li>4. <b>Switchings</b> do not affect CCFLs electrodes so these lamps are suitable for applications having high rate for (automatic or manual) switchings as Corridors, Toilettes, Stores, Lifts,..</li> <li>5. <b>Lamp life</b> is longer than hot cathode fluorescent lamps and not less than 50000 h</li> </ol> <p>CCFLs require mercury vapours mixed in rare gasses of the tube in order to operate. “Electrons are emitted from an electrode colliding with mercury atoms and so transferring energy to the atoms which elevates them to an excited state. When these atoms fall back to their original status they emit photons (packages of energy), normally not in the range of visible light. Ultraviolet photons excite the fluorescent powders, which are coated on the inside of the tube, with a high degree of efficiency. As a result these emit visible radiation in a range of colors. Lamps based on these principles and operating at low internal gas pressure are called ‘fluorescent lamps.’”</p>
<p>c) verifiable and referenced justification for an exemption, or its revocation, in line with the conditions established in Article 5;</p>	<p><b>Cold Cathode Fluorescent Lamps for general lighting purposes</b> cannot be considered totally excluded from the RoHS Directive scope because many of them are designed to operate with a voltage rating not exceeding 1000 V (a.c.) and also when they are exceeding such limit, the final appliance in which they have to operate will be supplied by 230 V a.c., so the limitation for hazardous substances would be applied to the whole luminaire. The existing exemption in ANNEX III, 2(b)(4) may be applied but it does not cover fully the needs for such lighting solution.</p> <p>The existing exemptions seem have been issued after having studied the situation relevant to the traditional lighting sources (for general</p>

Criteria	<b>Information:</b> <b>Please provide supporting technical and scientific evidence</b>
	<p>lighting) and for CCFLs proper to have backlight in specific application (e.g. LCD monitors). Such exemption does not allow to CCFLs to have long length anymore.</p> <p>The present proposal for a new exemption would be proper for this kind of lamps which can contribute to optimize the energy balance in lighting systems by their high lumen output, long life and robustness with adding no mercury to the environment over than the traditional lighting sources (on some cases even less), when considering the issue by a LCA for the whole system.</p> <p>Take into account the possibility to use more lamps of shorter length (1,5 m) in place of a 6 meters length CCFL, would reduce energy efficiency of the entire equipment. The energy used would be dissipated by electrodes bringing to higher energy consumes for obtaining the same light intensity that could be obtained with a longer CCFL.</p> <p>Structural requirements should also be considered: use more lamps aligned, within a path arranged for a single longer CCFL, necessarily imply a greater encumbrance and more space for the installation of the lighting equipment (than more hosting spaces, not always available).</p>
<p><b>d)</b> an analysis of possible alternative substances, materials or designs on a life-cycle basis, including, when available, information about independent research, peer-review studies and development activities by the applicant and an analysis of the availability of such alternatives;</p>	<p>At present time do not exist alternatives to mercury to be used in CCFL.</p>
<p><b>e)</b> information on the possible preparation for reuse or recycling of materials from waste EEE, and on the provisions relating to the appropriate treatment of waste according to Annex II to Directive 2002/96/EC;</p>	<p>Increasing the amount of mercury in CCFLs does not require any change in the normal procedure for disposal, recovery, preparation for re-use of these equipment in respect to usual treatments already established to the purposes of the WEEE Directive 2002/96/EC.</p>
<p><b>f)</b> other relevant information;</p>	

<b>Criteria</b>	<b>Information:</b> <b>Please provide supporting technical and scientific evidence</b>			
<p><b>g)</b> the proposed actions to develop, request the development and/or to apply possible alternatives including a timetable for such actions by the applicant;</p>	n.a.			
<p><b>h)</b> where appropriate, an indication of the information which should be regarded as proprietary accompanied by verifiable justification;</p>	n.a.			
<p><b>i)</b> when applying for an exemption, proposal for a precise and clear wording for the exemption;</p>	<p><b>Cold Cathode Fluorescent Lamps for general lighting purposes</b> are very different, as per technical and constructional characteristics and electrical values from the CCFLs to which the Commission Decision n. 571 of 24<sup>th</sup> September 2010 refers in id. 3(a), 3(b) and 3(c); such differences are because of applications (and users). The proposal would be in line with the already agreed concept as in 2(b)(3) “Non-linear tri-band phosphor lamps with tube diameter &gt; 17 mm” and 2(b)(4) “Lamps for other general lighting and special purposes” having a limit up to 15 mg which would become not enough for lamp length above 1500 mm.</p> <p>Therefore we propose to add to the Annex III the following new exemption.</p> <table border="1" data-bbox="639 1485 1477 1581"> <tr> <td data-bbox="639 1485 759 1581"><b>3 (d)</b></td> <td data-bbox="759 1485 1217 1581"><b>Mercury in cold cathode fluorescent lamps for general lighting purposes</b></td> <td data-bbox="1217 1485 1477 1581"><b>1,0 mg per 100 mm</b></td> </tr> </table>	<b>3 (d)</b>	<b>Mercury in cold cathode fluorescent lamps for general lighting purposes</b>	<b>1,0 mg per 100 mm</b>
<b>3 (d)</b>	<b>Mercury in cold cathode fluorescent lamps for general lighting purposes</b>	<b>1,0 mg per 100 mm</b>		
<p><b>j)</b> a summary of the application.</p>	<p><b>See attached file: RoHS Exemption proposals for CCFL_technical file.doc (point 1.)</b></p>			

**Additional guidelines**

To support your application, it may be useful to provide, in addition, an assessment of your application from an independent expert. These should be accompanied by information that will allow the Commission and TAC to be satisfied that the consultant is independent and is qualified to assess the application.

Explain the reasons why potential alternative materials, designs or processes are unsuitable with quantitative data wherever possible. If possible, provide photographs or diagrams to illustrate claims. Sources of information should be referenced where possible.