


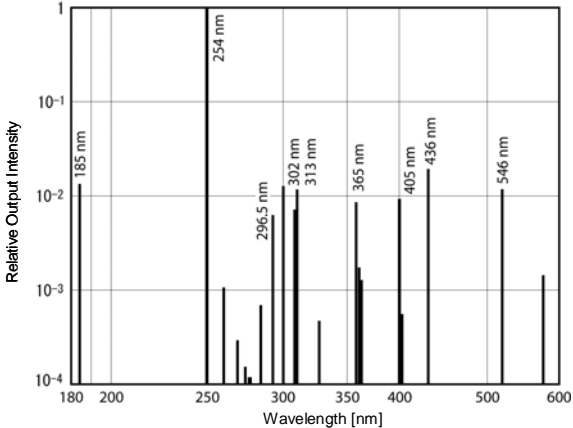


Exemptions #04: “Mercury in other lamps not specifically mentioned in this Annex”

| General questionnaire | |
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| <ul style="list-style-type: none"> ● For which substance(s) or compound(s) should the requested exemption be valid? | Mercury (Hg) |
| <ul style="list-style-type: none"> ● What is the application in which the substance/compound is used for and what is its specific technical function? | <p>1) Hollow Cathode Lamp</p>  <p>2) Low Pressure Mercury Lamp</p>  <p>3) Mercury-Xenon Lamp</p>  <p>Those are used as light sources of various applications such as followings;</p> <ol style="list-style-type: none"> 1) Hollow Cathode Lamp Atomic absorption spectrometers, 2) Low Pressure Mercury Lamp Wavelength calibration of Spectrometers, |

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| | <p>Chromatograph, Fluorospectrophotometer, Water pollution analyzer, Sterilization lamp, Ozone generator, Ozone detector,</p> <p>3) Mercury-Xenon Lamp</p> <p>Wafer inspection system, Semiconductor photolithographic equipment, Fluorescent microscopy, Blood analyzer, UV irradiation equipment, etc.</p> |
| <p>● What is the specific (technical) function of the substance/compound in this application?</p> | <p>To emit strong specific line spectrum unique to the mercury.</p>  <p style="text-align: center;">Fig. Specific Line Spectrum of Mercury</p> |
| <p>● Please justify why this application falls under the scope of the RoHS Directive (e.g. is it a finished product? is it a fixed installation? What category of the WEEE Directive does it belong to?).</p> | <p>The lamps as final products we request are deemed “electric light bulbs”, and those are also used as the components of the other equipments fallen into category, especially 8&9, of WEEE Directive ANNEX IA.</p> |
| <p>● What is the amount (in absolute number and in percentage by weight) of the substance/compound in:</p> <p>i) the homogeneous material,</p> <p>ii) the application and</p> <p>iii) total EU annually for RoHS relevant applications?</p> | <p>1) Hollow Cathode Lamp i) 0.64 wt% ii) 0.03 wt% iii) 7g</p> <p>2) Low Pressure Mercury Lamp i) 100 wt% ii) 0.03 wt% iii) 20g</p> <p>3) Mercury-Xenon Lamp i) 100 wt% ii) 0.05 wt% iii) 1000g</p> |

Japan Business Council in Europe

Exemption #4 : Mercury in other lamps not specifically mentioned in this Annex
(Category 8&9 equipment)

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| <ul style="list-style-type: none">● 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. | As far as we know, it seems that there are no overlaps with the already existing items and requests on the previous consultations. |
| <ul style="list-style-type: none">● Please provide an unambiguous wording for the (requested) exemption. | Mercury in other lamps not specifically mentioned in this Annex (current exemption #4) |

Exemptions #04: “Mercury in other lamps not specifically mentioned in this Annex”

| Specific questions | |
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| <p>1. Please specify the different lamp types that use mercury, including the technology used, the amount of mercury contained (also mercury per burning hour), the function of mercury in the lamp, the lifetime of the lamp and its energy consumption.</p> | <p>The amount of mercury contained in the application are;</p> <ol style="list-style-type: none"> 1) Hollow Cathode Lamp 0.03 wt%, 2) Low Pressure Mercury Lamp 0.03 wt%, 3) Mercury-Xenon Lamp 0.05 wt%. <p>The function of mercury in the each lamp is to emit strong specific line spectrum unique to the mercury.</p> <p>The lifetime of the lamp and its energy consumption are;</p> <ol style="list-style-type: none"> 1) Hollow Cathode Lamp 700 hrs 8 W, 2) Low Pressure Mercury Lamp 5000 hrs 3.6 W, 3) Mercury-Xenon Lamp 2000 hrs 200 W. |
| <p>2. What is the total amount of mercury put on the market in the EU annually and currently in use for each of these different mercury-using lamp types?</p> | <p>The total amount of mercury put on the market in the EU annually and currently are estimated, based on only our sales, as;</p> <ol style="list-style-type: none"> 1) Hollow Cathode Lamp 7g, 2) Low Pressure Mercury Lamp 20g, 3) Mercury-Xenon Lamp 1000g. |

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| <p>3. For which of these lamp types is the use of mercury avoidable (e.g. through substitution of the substance itself or through use of other lamp technologies not containing mercury)? Where has a reduction of the amount of mercury or a full substitution already begun or been completed? Please describe alternatives in (technical) detail.</p> | <p>It is difficult to substitute mercury in the lamps since mercury is essential material for the lamp's performance and its applications to get the specific line spectrum unique to the mercury.</p> |
| <p>4. Please specify the maximum amount of mercury contained in each lamp type today and how it will decrease over time due to technological progress. Support your statement with appropriate documentation such as a roadmap or results of tests and research activities. What is the currently best available technology with regard to lowest mercury content in each lamp type?</p> | <p>It seems difficult in terms of the lamps we request.</p> |
| <p>5. Please provide appropriate information on the benefits of the use of mercury in lamps, compared to lamps not using mercury; especially with regard to energy savings and hence reduction of mercury emissions during electricity production.</p> | <p>Mercury is the most efficient substance to emit light in ultraviolet region, and there are no substitutes to have the same performance at present.</p> |
| <p>6. Assuming that in the EU a total phase-out of mercury is possible for the use in lamps, please specify until when such a phase-out would be completed for which application.</p> | <p>It seems difficult in terms of the lamps we request.</p> |
| <p>7. Assuming that the existing exemptions do not anymore reflect the status of best available technologies and that an exemption for the use of mercury in lamps in future would only be limited to very specific cases, please provide a wording proposal (which may also include an expiry date for the exemption of a certain application).</p> | <p>We believe that the technologies and principles used for the lamps we request are definitely reflecting the current and the best available ones.</p> |

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| <p>8. Please provide an opinion on the recommendations for limits of mercury content included in the preparatory studies for implementing measures under the Ecodesign framework Directive (2005/32/EC, "EuP").</p> | <p>The each lamp we request is not subjected to the preparatory studies for implementing measures under the Ecodesign framework Directive (2005/32/EC, "EuP") such as street lighting (lot 9), office lighting (lot 8) and domestic lighting (lot 19).</p> |
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