



Document sent by E-Mail to: rohs@biois.eu

Munich, 20th Mai 2021

Ref.: Stakeholder consultation exemption no. 4(f) of RoHS Annex III

Dear project team,

Infineon Technologies AG, as a world leader in semiconductor solutions, plays a key role in shaping a better future – with microelectronics that link the real and the digital world and currently employs 19,100 people in EMEA, 46,700 people worldwide. Infineon Technologies' semiconductors enable smart mobility, efficient energy management, and the secure capture and transfer of data.

This letter intends to emphasize our input and support to the renewal of exemption no. 4(f) of RoHS Annex III on a maximum validity period, as requested by Lighting Europe et al.¹

For Infineon Technologies, with its 3 main production sites in Europe (Dresden, Regensburg, Villach), these mercury lamps, which are in focus, are very important and any prohibition against their use would have far reaching effects for European semiconductor industry and also other industries, which depend on semiconductors.

Mercury lamps are essential for Infineon Technologies' semiconductor production in the EU by using them for all i-line lithography (365 nm) and UV curing tools. I-line lithography is used for all structures >350 nm and steppers using mercury discharge lamps as the light source, as they are the only commercially available equipment and state of the art in the semiconductor industry. All the i-line lithography exposure tools and the available resists are optimized to use a wavelength of 365 nm which is only available with mercury lamps. These lamps are closed systems, so there is no release of mercury to the environment and they can be properly recycled at end-of-life.

Currently, for Infineon Technologies' i-line lithography, there are no alternatives available, which are capable to provide the same effective performance. Available laser technology uses different wavelengths, which makes them unsuitable for i-line lithography processes in Infineon Technologies' semiconductor production. If the previously established processes would have to be changed, this would result in significant efforts for lithography equipment manufacturers, resist suppliers and semiconductor manufacturers.

The European Commission has ranked the semiconductor industry as being one of the most R&D intensive sectors. As a possible consequence of a ban of these lamps, the European semiconductor industry might be forced to outsource production to countries without the restriction to continue using mercury lamps, which would be contrary to EU plans to promote the semiconductor industry in Europe.

Sincerely yours,

Dr. Christian Pophal
Vice President
Head Corporate Sustainability and Business Continuity Planning

¹ https://rohs.biois.eu/4_f_LightingEurope_Exemption%20Request.pdf