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Dear RoHS Exemption Group,

Please find below my response regarding Cd-free substitutes to consider if exemptions for Cd in Lighting and Display applications are still justified under the regime of Directive 2011/65/EU (RoHS 2). My comments are centered on lighting applications.

For lighting applications, Cd-QD have been explored for the improvement of red lighting emission to enable improved color rendering, light quality, and lumen efficacy. There has been some limited implementation of Cd-QD. However, we believe that KSF Phosphor offers superior performance to that of Cd-QD due to KSF's more narrow emission resulting in lower relative infrared light emission and improved lumen efficacy. KSF technology is implemented with active expansion in the marketplace. Our company launched its first products in 2015 and has continued expanding use of the technology including licensing of the technology to several LED manufacturers. Moreover, the technology was highlighted in products by multiple LED suppliers at Light + Building in Frankfurt, Germany this past week. It is often difficult to compare the catalog specifications of LEDs from different manufactures directly, but KSF's ability to improve an LED's performance from 80CRI to 90CRI with the same efficacy (Lumens/Watt) at warmer color temperatures (CCT) is a clear indication of the capability of the technology. With the KSF technology solution in place, the original arguments for the need for the exemption on Cd that exceeds RoHS requirements have been resolved.

Products of our company using KSF Technology are listed at

<https://www.gecurrent.com/brands/trigain>

<http://images.salsify.com/images/ki6itck4t8clbjmr3fjn/IND552-TriGain-Technology-Brochure.pdf>

Other industry references:

https://led-ld.nichia.co.jp/en/product/lighting_h6.html

<https://www.bridgelux.com/products/f90>

Please feel free to contact me with any questions.

Sincerely,


William E. Cohen