

October 29, 2013

Öko-Institut e.V.
Carl-Otto Gensch
P.O. Box 17 71
D - 79017 Freiburg
Germany

Dear Carl-Otto Gensch,

By signing this letter, I would like to express on behalf of Nanosys, Inc. our strong support of two RoHS exemption requests, 2013-2 and 2013-5 by QD Vision and 3M, respectively. As the CEO of one of the leading corporations that is a part of the budding quantum dot industry, we are stakeholders in the outcome as our business is focused on developing and commercializing fluorescent technology based on the use of quantum dots for down-conversion (e.g., conversion of light from one wavelength to another wavelength), filtering and optical coating layers for products such as display (e.g., mobile phone, tablet and T.V.) backlight sources and general illumination. Our core technology is based on the use of cadmium containing nanocrystals which are over-coated with an inorganic shell material and embedded in, and uniformly distributed throughout an organic (e.g., polymer) matrix, and then hermetically sealed in a container or film for optical applications.

The use of cadmium is essential for these optical applications because cadmium containing nanocrystals have a very high color selectivity, sharp wavelength cut-off, and high photoluminescent yield (e.g., high brightness upon irradiation), for which no other non-cadmium materials can currently meet similar performance requirements.

These unique performance characteristics are enabling display designers to create a new class of displays that are brighter, more power efficient and more colorful than possible without cadmium based quantum dots. Compared to best in class non-cadmium materials, which are limited to $>40\text{nm}$ full width half max (FWHM) line width, cadmium-based quantum dots achieve a FWHM of $\leq 32\text{nm}$ or less. This sharper wavelength cutoff means displays with both better, more accurate color and higher efficiency through improved color filter transmission. Cadmium quantum dots are also inherently more efficient, with a quantum yield of over 92% in current commercial devices compared to just 80% for best in class research scale non-cadmium materials. Higher quantum yield directly impacts the energy efficiency of a display system and a 15% improvement translates into a significant energy savings over the course of a device's lifetime.

I have reviewed the contents of the two applications, and find them persuasive. I write to you today in support of both requests. The requests of QD Vision and 3M go beyond the scope of those two corporations alone. 3M is currently one of our key commercial partners for our quantum dot technology, and while together we may be the first to have significant products on the market in the EU, we believe several others will follow our lead in the coming years. Hopefully the information provided herein and our strong support of the two exemption requests of QD Vision and 3M will be useful to you in your ongoing review of these requests.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Hartlove', with a stylized flourish at the end.

Jason Hartlove
President and CEO
Nanosys, Inc.