

CHALLENGES AND OPPORTUNITIES OF PHOTOINITIATOR DEVELOPMENT

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Over the past 15 years photoinitiator developers have faced a two-pronged challenge in developing products for the printing ink and coatings industries – safety regulation pushing the industry towards higher molecular weight and higher safety profile products, and market trends towards LED light sources.

The first of these prongs has been driven by consumer demand and additional regulations after high-profile incidences involving the migration of ingredients from food packaging ink to foodstuffs. This increased safety demand has led to a developmental focus on photoinitiators with high molecular weights which offer low migration, or with a low toxicity to reduce the harmful potential.

In parallel to this UV-LED light sources have been propelled from obscurity to being relatively commonplace. UV-LED's rise in market share is due to the myriad of advantages it has over the traditional mercury arc lamp. However, due to the UV-LED lamps' requirement for photoinitiators that absorb in the long wavelengths, other issues arise – namely the ability to achieve an effective surface cure and increased yellowing.

In this session we will be present a UV-C LED light source tested with a combination of newly developed photoinitiators which provide a full solution for safety, low migration, good surface cure and minimal yellowing.