

NEW URETHANE (METH)ACRYLATES WITH HIGH BIO-RENEWABLE CARBON CONTENT AND REMARKABLE MECHANICAL FEATURES

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Non-renewable resources such as natural gas and oil are limited in availability. Consequently, substantial efforts are being expended to develop alternative technologies for the manufacture of industrial chemicals, which utilize bio-renewable raw materials.

Due to the avoidance of VOC emissions and low energy consumption, radiation curing technology is already recognized as a sustainable technology. With the use of radiation curable materials based at least partially on renewable raw materials end-users can develop new formulations with improved carbon footprints and therefore achieve another level of sustainability.

Here, we report upon a new family of urethane (meth)acrylates with a bio-renewable content ranging from 50 to 80%. The extraordinary mechanical properties of these new resins in the targeted coating and 3D-printing applications will be discussed.