

Applications from lignin and its derivatives – is there more than burning it?

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Lignin is the second most abundant natural polymer and the largest natural source of aromatic monomers. It represents an enormous, but yet underutilized, reservoir of renewable carbon with the potential to serve as a feedstock for fuels, chemicals, and materials^{1,2}. Today, lignin is mostly produced as an industrial residue of pulp and paper factories (for instance as a by-product of the Kraft process), and most of the several millions tons of lignin produced annually are utilized as a low-cost fuel for power and heat generation. But the world is changing and different applications start to be commercialized and upscaled to precommercial level. Since technical lignins are more commercially available, and at different grades – applications like phenolic resins and bitumen are frontrunners to be on the market. Innovative applications like polyurethanes and epoxy resins find more and more industrial interest. Of course, some difficulties like its heterogeneity, and security of supply need to be tackled but things are clearly moving in that direction – insights in the search for applications will be shared.

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