

“Lignin, strongly on the move to valorization”

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Aromatics are among the most important resources for the chemical industry. Many (especially construction and long lasting) materials are made from aromatics and lead to higher or better performance. In some cases safety or toxicity is still an issue (e.g. bisphenol A). Brand owners are on the search for more sustainable molecules (e.g. bio-based), but also for safer materials of higher performance.

Currently virtually all aromatic building blocks are made from fossil oil. This presentation is anticipating the expected growing shortage of aromatics from the petrochemical industry and the widely shared ambition to green the chemical industry. This lecture will give an overview of the problems linked to wood-based refineries and the availability of lignin sources. Next, it will give an overview of the different approaches worldwide to valorize lignin and to produce bio-based aromatic molecules. It will indicate the hurdles, challenges and needs for value chain approaches.

However, in order to use lignin, one of the big problems is its low reactivity, high polydispersity and heterogeneity which makes it not very manageable. Efforts to fractionate, activate or depolymerize are under way by different consortia in order to solve these problems. In this respect, cost-effective downstream separation and purification processes are of utmost importance as well. State of the art of all these processes will be presented with special attention to the future markets and applications. A large part of this work is done via the shared research center Biorizon. If interested you can join the community at: www.biorizon.eu/community