



Deliverable 4.6

Material safety data sheet of actual developed products for commercialisation afterwards

Demonstration of solvent and resin production from lignocellulosic biomass via the platform chemical levulinic acid

The project leading to this application has received funding from the Bio Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 720695



Horizon 2020
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About GreenSolRes

The goal to establish economic and sustainable large-scale operations for the conversion of renewable resources to chemical building blocks is becoming increasingly important in the context of climate change and depleting fossil fuel reservoirs. Pathways for manufacturing of bio-based fuels and chemicals have been developed but most of them rely on sugar and starch crops for feedstock. GreenSolRes aims at a sustainable and competitive industrial production of the platform chemical levulinic acid (LVA) from lignocellulosic waste and residues originating from forestry and agricultural sector. Further, the conversion of LVA into industry relevant building blocks γ -valerolactone (GVL), 1-methyl-1,4-butanediol (MeBDO) and 2-methyltetrahydrofuran (2-MTHF) will take place by new catalytic methods developed during the course of this project. Finally, these chemicals will be upgraded to solvents and resin monomers for the production of high added value adhesives and consumer products. This project was started in September 2016.

Project Coordinator



Project Office



Consortium

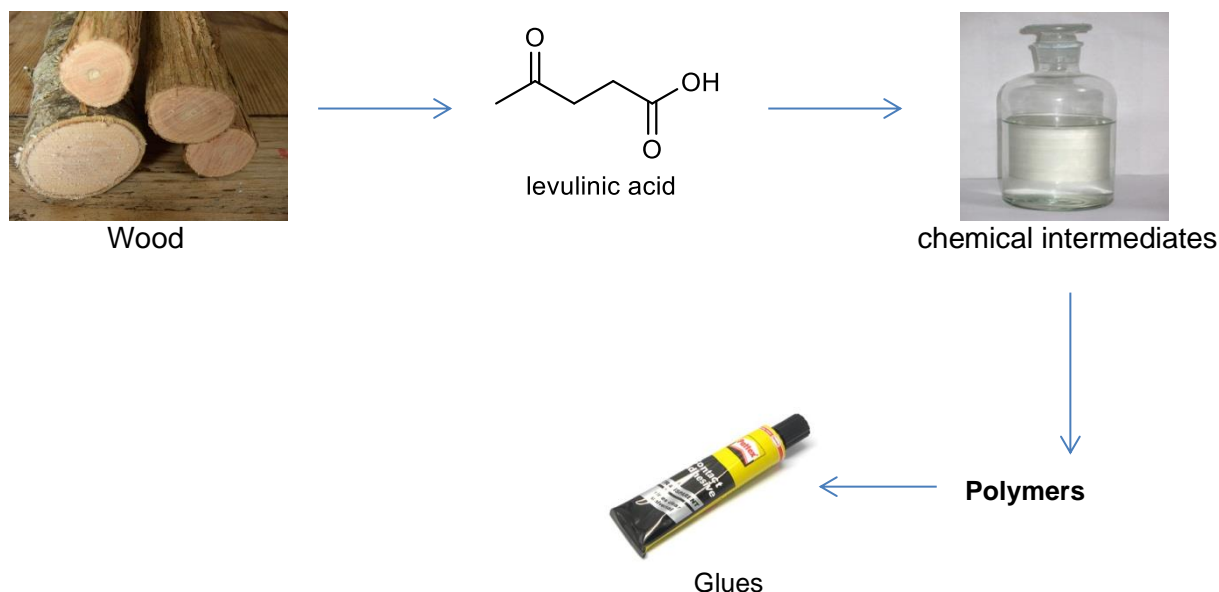


About this document

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PU	Public	
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Public Summary



Scheme 1. General scheme available for public.

The production of levulinic acid from wood, as well as the synthesis of chemicals from levulinic acid are one of the major goals of the GreenSolRes project (first 2 steps in the scheme above). One target of this project is to prepare polymers from these intermediates, which could be used for production of adhesives. MeBDO was used as a building block for fully bio-based polyesters. One MeBDO polyester was used as raw material in a 80% bio-based reactive polyurethane (PUR) hotmelt adhesive prototype. A material safety data sheet (MSDS) of the newly developed MeBDO polyester was created as deliverable 4.6. The MSDS is a prototype and based on the current MeBDO safety and toxicological assessments. Following this, the MeBDO polyester is classified as non-toxic, polymeric compound and therefore does not get a harmful label. This is in good agreement to similar polyester polyols used for polyurethane adhesives. The availability of MSD sheets is a prerequisite for further testing and commercialization. A first market introduction for this polyester is anticipated as ingredient for a structural adhesive in the electronics market. This is due to higher MeBDO costs that must be taken into account during scale-up and first market introduction phase. The first production and commercialization is foreseen at Henkel China. The MSDS was generated covering Henkel China requirements.