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BOOK OF ABSTRACTS

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Ignition sensitivity of grape pomace dust

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Waste materials from the food industry are biomass resources that could play an important role in reducing our consumption of fossil fuels and lowering the carbon footprint of the industry. Wineries generate large quantities of grape pomace, which in the EU is sent to alcohol distillery facilities, where it also undergoes subsequent extractions of valuable biomolecules for pharmaceutical and chemical applications. However, alternative energy recovery processes could also be of interest in the future considering the increase in energy prices and the need for renewable energy sources.

This study determines the ignition sensitivity (or flammability) properties of grape pomace samples with the aim of assessing the dust explosion and fire risks associated with this material during energy conversion processes, such as storage, milling and sieving, pyrolysis, combustion or pelletization.

One Tempranillo sample and one Graciano sample –both from vineyards located at La Rioja– were analysed. After drying the raw samples, the minimum ignition energy, minimum ignition temperature in layer and minimum ignition temperature in cloud were determined following standardised procedures. In addition, the Tempranillo grape pomace was dried down to two different moisture contents to determine the influence of moisture on the results.