



VOLATILE PHENOLS IN AGED WINE SPIRITS: ROLE, CONTENTS AND IMPACT OF AGEING SYSTEMS

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The volatile phenols (eugenol, guaiacol, 4-methylguaiacol, syringol, 4-methylsyringol and 4-allylsyringol) are odorant compounds that may exist in aged wine spirits resulting from their contact with wooden barrels during the ageing process. These compounds, which are originated from wood lignin's, revealed an important sensory impact in aged wine spirits due to their low sensory thresholds and correlations with sensory attributes such as woody, toasted, smoke, which have a close relationship with the quality of these beverages. The wine spirits are traditionally aged in wooden barrels but the use of wood fragments, with or without micro-oxygenation, is a technological alternative that has been recently studied by our team with promising results. This work presents an overview of volatile phenols' amounts in wine spirits aged in wooden barrels during different ageing times and using two kinds of wood (chestnut versus oak). These compounds were quantified by GC-FID, after a previous extraction and concentration steps, and their identification was assessed by GC-MS. It is also examined the results and the impact of alternative technologies on the amounts of such compounds. The ANOVA results showed a significant effect of the ageing system and the wood botanical species on the volatile phenols contents.

Keywords: Volatile phenols; Aged spirits; Chestnut; Oak; Micro-oxygenation

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