

Formaldehyde Release from a Mixture of Wood-Fiber Board Dust and Soil: Effect of Component Ratio and Moisture

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Abstract: The possibility of utilizing MDF dust containing urea-formaldehyde resins by mixing it with soil to reduce formaldehyde emission is considered. Experiments were conducted with samples containing 10, 20, and 30 wt. % MDF dust at moisture levels of 0–70 mass. %, using the photocolorimetric analysis method. It was found that increasing the soil proportion in the mixture reduces formaldehyde emission, with minimum values achieved at a 10% MDF : 90% soil ratio. A maximum was observed at moisture around 20...30 wt. %, after which emission levels decrease due to adsorption and absorption of formaldehyde by soil and soil solution, respectively.