

# One Health approach in “Do It Yourself” stores to tackle fungal contamination

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Wood dust contamination by fungi poses health risks due to exposure by inhalation. This study aimed to assess the exposure of woodworking employees and customers to fungal load in 13 “Do It Yourself” (DIY) stores in the Lisbon metropolitan area (Portugal). An active sampling method (MAS-100 air sampler) was applied in different store areas, collecting 200L at a flow rate of 140 L/min. Regarding the occupational exposure assessment and considering the threshold suggested by the WHO of 150 CFU.m<sup>-3</sup>, the cutting area and the wood display surpass this limit in all the stores included. As for the threshold suggested by OSHA for fungi in non-industrial workplaces (1.0 x 10<sup>1</sup>-1.0 x 10<sup>4</sup> CFU/m<sup>3</sup>), all the sampling sites from all the stores are within the limit, although indoor/outdoor ratio showed a higher indoor load compared to the outdoor counts in most of the stores. Regarding the Portuguese Indoor Air Quality legal framework, although the ratio I/O complied in two out of 13 stores, it was possible to identify in one of these two toxigenic species with a quantitative cut-off above the legal frame. The results of this assessment raise health concerns regarding workers’ and customers’ ‘safety and support the need to implement measures to prevent exposure and protect workers’ and customers’ health. Additionally, it is known that wood dust and shavings from DIY stores may be used in animal bedding and agriculture, promoting fungal contamination in other settings. This highlights the need for a One Health approach.

**Keywords:** DIY stores; Wood dust; fungal contamination; occupational exposure; IAQ;

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