

## First insights of Portuguese Primary schools' Fungal assessment – Is Indoor Air Quality complying with Portuguese legal framework?

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The assessment of Microbial Indoor Air Quality in elementary schools is essential to create healthier school environments and improve children's health outcomes. Portugal only established protection thresholds for microbial exposure, in commercial and service buildings through Portaria nº 138-G/2021 (1), leaving schools neglected for such parameters. Since this legislation has already been proven insufficient for fungal parameters (based on indoor/outdoor ratio) in other critical environments such as healthcare centers (2), this study aims to assess fungal load compliance in different sites of schools located in Lisbon area. An active sampling method was applied by collecting air through a MAS-100 device collecting 200L at a flow rate of 100 L/min. Of the 10 schools assessed in a summer campaign, 9 did not comply with the Portuguese legal framework in at least one site (8 out of 10 in the classrooms, 5 out of 7 in the bathroom, 4 out of 9 in the canteen, 4 out of 6 in the gymnasiums, and 3 out of 8 in the library). A critical assessment was performed to identify fungal species listed in this legislation. Although one school complies with the quantitative cut-off (I/O), critical species such as *Aspergillus* section *Circumdati* (*Aspergillus ochraceus*), and *Aspergillus* section *Fumigati* (*Aspergillus fumigatus*) present in this school do not meet the toxigenic species quantitative cut-off. The risk of exposure to pathogenic fungi poses a major public health threat for school-age children impacting not only treatable fungal infections but also students' learning conditions and outcomes (3).

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