

# 小型咖啡館烘豆過程中PM2.5及PM10對操作人員安全風險評估

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## 摘要

國際癌症研究總署(International Agency for Research on Cancer, IARC)已將空氣中直徑小於10微米的微粒物質(Particle Matter, PM10)歸類為一級致癌物。此類微粒物質能在支氣管和肺泡區域沉積，對健康構成嚴重風險。微粒物質物質的來源包括自然因素，如灰塵和植物花粉，以及人為因素，如車輛排放、廢物焚燒、

吸菸和烹飪等。儘管食品烹飪過程中的微粒物質生成已經受到關注，但對於咖啡豆的烘烤過程中產生的微粒物質濃度和粒徑分佈特徵的研究相對較少。有鑑於此，本研究將於小型咖啡館搜集和探討4個主要影響因素，包括咖啡豆的品種(阿拉比卡種和羅布斯塔種)、地理來源(肯亞、哥倫比亞及印度尼西亞)、加工方法(自然乾燥法、水洗式精緻法及蜜處理法)與烘烤時間等因素進行分析，評估不同因素下烘烤咖啡豆過程中所產生的細懸浮微粒(PM2.5)和懸浮微粒(PM10)濃度，並分析其排放特徵，建構起風險模型。本研究結果旨在為未來的咖啡烘焙工作人員的暴露安全風險評估提供基本參考依據。

關鍵字：咖啡豆烘烤、微粒物質物質、PM2.5、PM10、健康風險評估、小型咖啡館

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