

Concentrations and size distribution of inhalable and respirable dust among sugar industry workers: a pilot study in Khon Kaen, Thailand

Deskripsi Lengkap: <https://lib.fkm.ui.ac.id/detail.jsp?id=94338&lokasi=lokal>

Abstrak

There has been very limited information regarding bagasse exposure among workers in sugar industries as well as on health outcomes. The authors determined the occupational exposure of sugar industry workers in Khon Kaen to airborne bagasse dust. The size of the bagasse dust ranged from 0.08 to 9 μm with the highest size concentration of 2.1 to 4.7 μm . The most common size had a geometric mean diameter of 5.2 μm , with a mass concentration of 6.89 $\text{mg}/\text{m}^3/\log \mu\text{m}$. The highest mean values of inhalable and respirable dust were found to be 9.29 mg/m^3 from February to April in bagasse storage, 5.12 mg/m^3 from May to September, and 4.12 mg/m^3 from October to January. Inhalable dust concentrations were 0.33, 0.47, and 0.41 mg/m^3 , respectively. Workers are likely to be exposed to high concentrations of bagasse dust and are at risk of respiratory diseases. Preventive measures, both in the form of engineering designs and personal protective devices, should be implemented.