

*** Data underlying the research of Particulate Matter Exposure of coal miners in Northern Malawi***

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*** General introduction***

This dataset contains data collected among coal miners in Northern Malawi, as part of Pacharo Ndovi's Master Thesis project (December 2022):

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We are making this data public both to act as supplementary data for publications and for other researchers to use this data in their work.

This dataset contains data collected from miners between November and December 2022. The authors funded this research project, and Lotus International generously provided the data collection equipment, supplies, and laboratory analysis services.

*** Purpose of the study***

The study aimed to measure TSP exposure concentrations and estimate its non-carcinogenic risk through the inhalation pathway among different occupational groups in two coal mines in Northern Malawi.

*** Data collection equipment***

Thirteen personal air samplers (PAS) of the Escort Elf model (Zefon International, Ocala, Florida, USA) were employed. The sampling pumps were calibrated to a flow rate of 2.00 lpm using the Bios Defender. Air samples were collected with a 25 mm diameter Type A glass fibre filter featuring a 1.0 μm pore size attached to the sampling heads. The mass concentration of the particulates on the filters was determined gravimetrically using an electronic microbalance.

*** Description of the data in this dataset***

The data in this dataset has been organised according to each sampled individual, with each row representing one. SEG refers to similar exposure groups, and there are six SEGs. Gravimetric ($\text{mg}\cdot\text{m}^{-3}$) represents the concentration of the total suspended particulates.