

عنوان مقاله:

Predictive Statistical Model for Indoor Manganese Airborne Particles Affected by Psychrometric Parameters

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خلاصه مقاله:

Commonly, there are varieties of indoor airborne particles in the foundry factories. One of the main particle with emphasize on health effect on exposed human is manganese airborne particle. The current study considered correlation between indoor psychrometric parameters and manganese concentration in the workplace. Overall, fifty samples were collected by filter based on OSHA ID-121 method in the workplaces. SPSS V.20 was used to find a predictive model using linear regression model. The mean personal exposure to manganese was 1.626 mg/m³. The mean measured psychrometric 3 parameters for dry temperature, relative humidity and air velocity were 29°C, 52% and 1.2m/s, respectively. The correlations between personal exposures and indoor air parameters measurements showed a high significant relationship between personal exposure, dry temperature and wind speed in the factory ($P < 0.05$). This study concluded that controlling dry temperature and air velocity is the main effective parameters on airborne manganese concentration in the workplaces and decreased the personal exposure.

کلمات کلیدی:

Manganese Exposure Dry temperature Humidity Foundry

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