عنوان مقاله:

Evaluation of Ambient Air Quality at Nekede and Naze Dumpsites, Imo State, Southeast Nigeria Service Unavailable

محل انتشار:

فصلنامه روشهای تصفیه محیط, دوره 10, شماره 3 (سال: 1401)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Environmental pollution is one potential consequence of the lack of proper management of municipal solid waste. The study was carried out to evaluate on-site air quality at Nekede and Naze dumpsites for dry and wet seasons. Samples were measured at six (۶) sampling points within and around the field using a series of calibrated handheld air quality monitoring equipment. At each sampling point, nine (۹) air quality parameters (particulate matter (PM۲.۵ and PM۱۰) Hydrogen sulfide (H۲S), Ammonia (NH۳), Sulphur dioxide (SO۲), Methane (CH۴), Carbon dioxide (CO۲), Carbon monoxide (CO) and Nitrogen dioxide (NO۲) were measured. Results showed that PM۲.۵ and PM۱۰ were detected in all stations of both dumpsites in both seasons. The highest values for all parameters measured were at the dumpsites except for CO which increased as distance progressed off the dumpsite. The CO ranged from ۰.۴۲ to ۰.۹۴ ppm at Nekede dumpsite and ۰.۲۰–۱.۱۲ ppm at Naze dumpsite during the dry season with the lowest values measured at station NKAQ۱ and NZAQ۱ with corresponding values of ۰.۴۲ and ۰.۲۰ ppm. CH۴ was less than ۰.۰۱ ppm at NZAQ۳ in both seasons under study. All parameters measured were higher in the Nekede area than Naze except for NH۳ which ranged from ۰.۰۱ to ۰.۱۵ ppm and ۰.۰۲–۰.۱۷ ppm respectively for both seasons. Generally, NKAQ۳ and NZAQ۳ which all served as control stations had the lowest concentration of all parameters measured but otherwise for CO. Results further revealed that all parameters except CO exceeded the concentration values stipulated by USEPA and WHO, implying serious health implications in the study area. Consequently, the results call for a proper waste management system to ameliorate air pollution in the study area.Environmental pollution is one potential consequence of the lack of proper management of municipal solid waste. The study was carried out to evaluate on-site air quality at Nekede and Naze dumpsites for dry and wet seasons. Samples were measured at six (۶) sampling points within and around the field using a series of calibrated handheld air quality monitoring equipment. At each sampling point, nine (۹) air quality parameters (particulate matter (PM۲.۵ and PM۱۰) Hydrogen sulfide (H۲S), Ammonia (NH۳), Sulphur dioxide (SO۲), Methane (CH۴), Carbon dioxide (CO۲), Carbon monoxide (CO) and Nitrogen dioxide (NO۲) were measured. Results showed that PM۲.۵ and PM۱۰ were detected in all stations of both dumpsites in both seasons. The highest values for all parameters measured were ... at the dumpsites except for CO which increased as distance progressed off

کلمات کلیدی: