

Analisis risiko pajanan particulate matter (PM 2,5) pada pekerja pengolahan batu kapur di Desa Ciampea Kecamatan Ciampea Kabupaten Bogor pada tahun 2013 = Risk analysis of airborne particulate matter 2,5 microns (PM 2,5) to workers at limestone processing industry in Ciampea District, Bogor Regency 2013

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Abstrak

Menilai risiko pajanan partikulat PM2.5 dilakukan pada pekerja di industri pengolahan batu kapur di Kecamatan Ciampea, Jawa Barat. Penelitian ini bertujuan untuk memperkirakan besar risiko pajanan yang diterima oleh pekerja. Konsentrasi PM2.5 diukur secara langsung pada 12 titik tungku pembakaran di area pembakaran dan data pola aktifitas pekerja dikumpulkan dengan kuesioner pada 50 pekerja. Konsentrasi PM2.5 tertinggi tercatat sebesar 1,141 mg/m³ dan terendah 0,065 mg/m³ dari 12 titik lokasi pembakaran. Perhitungan risiko memperlihatkan adanya kelompok berisiko pada kelompok pekerja di area tungku 1-7 (RQ > 1) sedangkan kelompok tidak berisiko lebih dominan pada area tungku 8-12 (RQ < 1). Meskipun konsentrasi PM2.5 masih dibawah nilai NAB Permenakertrans, lamanya aktifitas kerja meningkatkan risiko pada pekerja. Adanya perbedaan risiko disebabkan karena adanya perbedaan jenis bahan bakar yang digunakan pada setiap tungku. Minimalisasi risiko dilakukan dengan mengurangi waktu kontak dengan pajanan bisa dilakukan dengan menggunakan pengendalian administratif dengan cara mengatur lama pekerja per hari (tE) dan per minggu (fE).

Risk analysis of exposure to particulate matter PM2.5 was conducted on a group of workers at a limestone processing industry in the Ciampea District, West Java. This research was aimed to estimate the risk of PM2.5 exposure received by workers. PM2.5 was measured directly on 12 furnace burning point. Meanwhile workers activity pattern was collected using questionnaire to 50 workers. Highest concentration of PM2.5 was recorded at 1,141 mg/m³ and 0,065 lowest among 12 monitoring points. Risk calculation showed that there was risk group in furnace burning point 1-7 (RQ > 1), while the no-risk group was more dominant in the furnace burning point 8-12 (RQ < 1). Although recorded PM2.5 concentration was lower than Permenakertrans threshold limit value, duration of working will increase the risk to workers health. Difference of risk value between each furnace area is caused kind of fuel used and type of fuel. Minimization of risk can be conducted by decreasing time of contact, administrative control by setting time of working per day or per week.