Penilaian Risiko Kesehatan Terkait Pajanan Bahan Kimia di Industri Pupuk PT X Tahun 2024

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Abstrak

Industri pupuk memiliki peran strategis dalam mendukung ketahanan pangan nasional, meskipun tetap menghadapi risiko kesehatan pekerja akibat pajanan Bahan Berbahaya dan Beracun (B3). Penelitian ini bertujuan untuk menganalisis tingkat risiko kesehatan (Risk Rating/RR) terkait pajanan bahan kimia pada pekerja di industri pupuk tahun 2024. Penilaian risiko kesehatan dilakukan menggunakan Chemical Health Risk Assessment (CHRA) yang dikembangkan oleh Departemen Occupational Safety and Health (DOSH), Malaysia (2018). Penilaian meliputi aktivitas bongkar muat bahan kimia, pengambilan sampel laboratorium, dan penambahan bahan penolong, dengan jalur pajanan inhalasi dan dermal. Hasil penelitian menunjukkan bahwa pada aktivitas bongkar muat, tingkat risiko inhalasi dan dermal berkisar dari sedang hingga berat (RR inhalasi bernilai 9-15; RR dermal bernilai M1 dan H1). Aktivitas pengambilan sampel menunjukkan tingkat risiko inhalasi sedang hingga berat (RR bernilai 6-10) dan tingkat risiko dermal sedang (RR bernilai M1). Pada aktivitas penambahan bahan penolong, tingkat risiko inhalasi sedang (RR bernilai 9-10) dan risiko dermal sedang hingga berat (RR bernilai M1 dan H1). Pengendalian risiko yang ada di PT X belum cukup efektif, sehingga tindakan perbaikan yang direkomendasikan meliputi: evaluasi substitusi penggunaan gas klorin, desain ulang stasiun pengisian asam sulfat, mechanical integrity untuk peralatan kritis, penggunaan alat bantu pengambilan sampel bahan kimia cair, menyusun instruksi kerja dan memberikan pelatihan terkait bahaya dan pengendalian bahan kimia, konsistensi penggunaan alat pelindung diri (APD), menerapkan respiratory protection program secara menyeluruh, kesiapan menghadapi keadaan darurat, pemantauan pajanan secara personal, dan pemeriksaan kesehatan secara berkala bagi pekerja non organik yang terpajan bahan kimia. Implementasi rekomendasi ini diharapkan dapat menurunkan tingkat risiko kesehatan terkait bahan kimia pada pekerja di industri pupuk. <hr /> The fertilizer industry has a strategic role in supporting national food security, although it still faces workers' health risks due to exposure to hazardous and toxic substances (B3). This study aims to analyze the level of health risk (Risk Rating/RR) related to chemical exposure to workers in the fertilizer industry in 2024. The health risk assessment was carried out using the Chemical Health Risk Assessment (CHRA) developed by the Department of Occupational Safety and Health (DOSH), Malaysia (2018). The assessment includes chemical loading and unloading activities, taking laboratory samples, and adding adjuvants, with inhalation and dermal exposure routes. The research results show that in loading and unloading activities, the level of inhalation and dermal risk ranges from moderate to severe (inhalation RR is 9-15; dermal RR is M1 and H1). Sampling activities indicate a moderate to severe inhalation risk level (RR value 6-10) and a moderate dermal risk level (RR value M1). In the activity of adding adjuvants chemical, the level of inhalation risk is moderate (RR is 9-10) and the dermal risk is moderate to severe (RR is M1 and H1). Existing risk control at PT X is inadequate, so the following corrective actions are recommended: evaluating alternatives to chlorine gas, redesigning the sulfuric acid filling station, mechanical integrity for

critical equipment, using liquid chemical sampling aids, compiling work instructions, and providing hazardous and chemical control training. For non-organic workers who are exposed to chemicals, it is important to use personal protection equipment (PPE) consistently, respiratory protection program, be prepared for emergencies, monitor personal exposure, and have frequent health tests. The implementation of these guidelines is likely to reduce chemical-related health risks for fertilizer industry personnel.