

Evaluasi gas ammonia terbebas di udara (Studi potensi dampak negatif pada pekerja dan masyarakat serta strategi penanggulangan pada lingkungan PT. Pupuk Sriwidjaja Palembang) = Evaluation of ammonia gas release in the air (Study of the negative impact potential towards workers and communities along with countermeasures strategies at PT. Pupuk Sriwidjaja Palembang)

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Abstrak

Ammonia merupakan senyawa polutan dengan ciri khas bau menyengat, serta dapat berbahaya ketika terpapar manusia. PT.PUSRI adalah produsen ammonia dan urea di Indonesia yang terletak berdekatan dengan permukiman warga, dimana gas ammonia seringkali terbebas diudara dan menyebabkan gangguan baik di dalam maupun disekitar lingkungan pabrik. Tujuan penelitian ini adalah mengevaluasi terbebasnya gas ammonia pada lingkungan sekitar pabrik ditinjau dari faktor penyebab, konsentrasi keluaran ammonia terbebas, dampak terhadap pekerja dan masyarakat, serta tindak penanggulangan yang dilakukan. Penelitian ini menggunakan metode sequential explanatory dengan menggabungkan data yang didapatkan dari observasi lapangan, wawancara key informan, kuesioner, dan literature review.

Berdasarkan penelitian, sekitar 95% faktor terbebasnya gas ammonia disebabkan permasalahan peralatan dengan nilai konsentrasi keluaran plant pada kondisi normal berada diantara 50-150 mg/Nm<sup>3</sup> dan konsentrasi tertinggi dapat melebihi 435,79 mg/Nm<sup>3</sup> pada saat pabrik mengalami gangguan. Dampak yang dialami pekerja dan masyarakat lebih kepada gangguan iritasi pada mata, hidung, dan saluran pernapasan yang bersifat sementara. Adapun tindak penanggulangan PT. PUSRI dalam bentuk Perbaikan proses dan pengembangan IPAL, pembangunan Green barrier, serta posko kesehatan sementara. Perlu dipertimbangkan penanggulangan yang diduga paling baik adalah dengan spraying dan pembangunan green barrier. Akan tetapi, masih terdapat beberapa kendala dan kelemahan dalam implementasinya, sehingga perlu dioptimalkan kembali.

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Ammonia is a major pollutant compound with the characteristic of pungent odor, potentially harming when exposed to the human. PT. PUSRI is one of the Industries that produce ammonia and urea which is located adjacent to residential areas, where ammonia is often released in the air, causing disturbances both in and around the factory. This study focused on determining the factors causing the ammonia released, the concentration level of gas, its influence on the environment, along with the prevention attempted by the plant related to the case. This study use a quantitative approach with sequential explanatory method, by using literature study reinforced field observation, secondary data assisted by interviews and questionnaires on the workers and communities.

Based on the research, about 95% of the ammonia gas release is caused by equipment problems with the plant output concentration values under normal conditions between 50-150 mg/Nm<sup>3</sup> and can exceed 435.79 mg/Nm<sup>3</sup> when the plant is disrupted. The impact experienced by workers and the community is more on temporary irritation of the eyes, nose and respiratory tract. The countermeasures taken are the improvement of the process and development of WWTPs, the construction of Green

barriers, and temporary health clinic. It should be considered that the best response is spraying and green barrier, but several weaknesses towards its implementation should be highlighted in order to achieve the best optimization.